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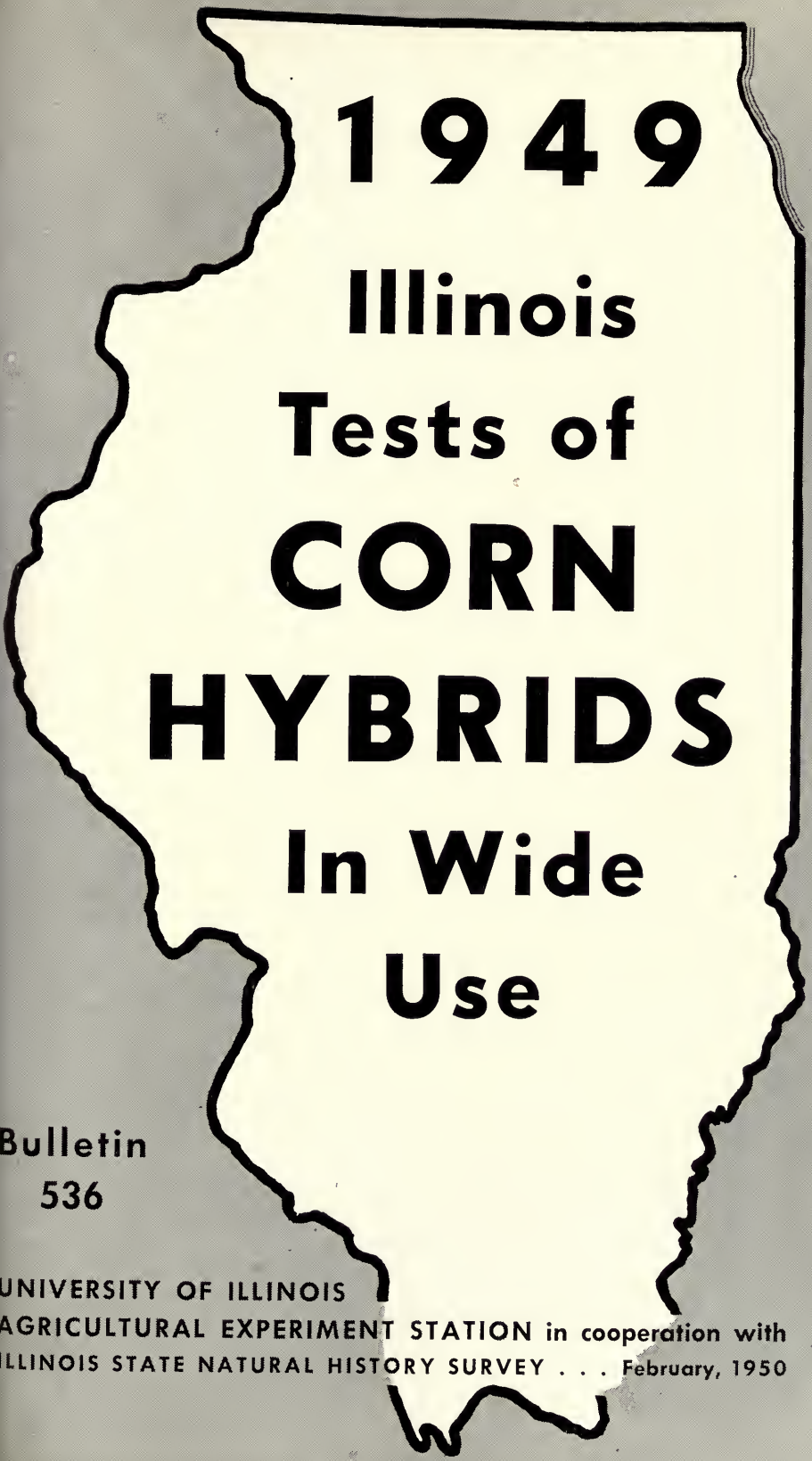
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1949 Illinois Tests of CORN HYBRIDS In Wide Use

Bulletin
536

UNIVERSITY OF ILLINOIS
AGRICULTURAL EXPERIMENT STATION in cooperation with
ILLINOIS STATE NATURAL HISTORY SURVEY . . . February, 1950



Location of 1949 test fields

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Urbana, Illinois (*Reprinted with corrections March, 1950*) February, 1950

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ILLINOIS TESTS OF CORN HYBRIDS IN WIDE USE IN 1949

J. W. Pendleton, G. H. Dungan, J. H. Bigger, Benjamin Koehler, A. L. Lang, R. W. Jugenheimer, and G. E. McKibben[1]

THE SECOND LARGEST CORN CROP in history was grown in Illinois in 1949. Total production was estimated at 514 million bushels and average yield at 56 bushels an acre.[2] This is 36 million bushels below the total production of the record-breaking year 1948 and 4 bushels below the average acre-yield. Comparison of yields in the 1948 and 1949 hybrid-corn tests conducted on the four fields in northern and central Illinois showed a 19-bushel, or 24-percent, reduction in yield per acre.

PLAN OF THE TESTS

Number of hybrids and their sources. Three hundred sixteen hybrids were grown on seven regular test fields. Six single-cross and three double-cross hybrids were grown on two special test fields which differed in productivity. Sixty-one companies and individuals and the Illinois Station furnished seed for the tests (see pages 500-501).

Eighty-one hybrids were grown at Galesburg, Sheldon, Sullivan, and Alhambra. At the Dixon Springs Experiment Station 60 entries were planted on the bottomland field and 11 entries on the upland field. Seventy-five entries were tested at DeKalb and 40 at Mundelein (Table 1, page 468).

A representative of the Illinois Station took almost all the seed for planting the test fields directly from the warehouses of the producers entering the corn. A few producers delivered small quantities to the Station. Seed of Illinois and U. S. hybrids in commercial production was obtained from the producers of these hybrids and also from the Illinois Seed Producers Association.[3]

[1] J. W. Pendleton, Assistant in Crop Production; G. H. Dungan, Professor of Crop Production; Benjamin Koehler, Professor of Crop Pathology; A. L. Lang, Professor of Soil Fertility; R. W. Jugenheimer, Professor of Plant Genetics; G. E. McKibben, First Assistant in Agricultural Research; J. H. Bigger, Entomologist, Illinois State Natural History Survey. [2] Estimates for the average yield for the state were furnished by the Illinois Cooperative Crop Reporting Service, Illinois State Department of Agriculture cooperating with the U. S. Department of Agriculture. [3] The seed supplied by the Illinois Seed Producers Association was single crosses used in the Soil Adaptation test.

Table 1. — GENERAL INFORMATION: Illinois Cooperative Hybrid Corn Tests, 1949

Field, county, location, and number of entries	Date planted	Date harvested	Average acre-yield	Moisture in grain	Damaged corn	Erect plants	Stand	Protein	Oil
			bu.	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*
Mundelein: Lake NE 40..	May 20	Oct. 25	85.1	22.2	1.4	74	82	11.0	5.0
DeKalb: DeKalb N 75....	May 23	Nov. 15-16	58.5	18.1	1.5	91	82	9.1	4.3
Galesburg: Knox WNC 81	May 16	Oct. 27	88.6	18.9	2.8	76	82	10.0	4.7
Sheldon: Iroquois ENC 81	May 28	Oct. 31	82.8	20.4	2.9	69	83	10.3	4.5
Sullivan: Moultrie SC 81..	May 17	Nov. 1	85.1	18.4	2.9	73	92	9.2	4.5
Alhambra: Madison S 81..	June 2	Nov. 21	59.8	17.0	1.4	71	84	9.7	4.3
Dixon Springs: Pope Ex.S									
Bottomland 60.....	May 26	Nov. 3	67.6	18.4	2.0	69	85	10.5	4.7.
Upland 11.....	May 25	Nov. 3	63.5	20.1	2.7	82	84	10.0	4.5

COOPERATORS: JAY and PARK ALLANSON, *Lake county*; R. HAWTHORNE, *Knox county*; JOHN B. RICE, *Iroquois county*; R. B. VANDEVEER, Farm Manager, Illinois Masonic Home Farm, *Moultrie county*. The DeKalb field in DeKalb county and the Alhambra field in Madison county are managed by the Illinois Station; FRANCIS HART and ERVIN ISENBERG are overseers. The Pope county fields at Robbs are part of the Dixon Springs Experiment Station of which R. J. WEBB is superintendent.

Selection of entries. Each year seed corn producers are given an opportunity to nominate hybrids for testing on the various fields. For some fields the number of hybrids nominated is so great that they cannot all be tested. Most of the hybrids selected are extensively grown in this state. A number of experimental hybrids that have shown promise for commercial production were included. Other hybrids were grown to meet the field-performance requirement for certification. Generally six Station-produced, open-pedigree hybrids were included to serve as standards or checks.

Soil characteristics of fields. The test fields were medium to high in productivity, and each represents a soil type common to the region where it is located. Each field was selected carefully for uniformity in soil type, productivity, and drainage. Approximate locations of test fields are shown in map on inside front cover. Information on soil characteristics and management is given in Table 2.

Field-plot design. A 9 x 9 randomized, lattice-square field-plot design with 5 replications was used on the Galesburg, Sheldon, Alhambra, and Sullivan fields. Controlled, randomized block designs were used at all other locations.

Method of planting. All test fields were planted by hand on land prepared in the regular way for corn. Each plot consisted of 2 rows 10 hills long, except at Alhambra where the plots were only 9 hills long. Three kernels were dropped in each hill except on the fields at Dixon Springs, where only 2 kernels were planted.

Table 2. — TESTING FIELDS: Soil Characteristics and Management Practices

Soil type	Lime requirement	Available phosphorus	Available potassium	Previous crops and soil management
	tons			
NORTHEASTERN: Mundelein				
Saybrook silt loam	3	Medium	High	Corn 1946; oats 1947; red clover-alfalfa pasture 1948; rock phosphate added in 1947; manured in 1949.
NORTHERN: DeKalb				
Lisbon silt loam (northeast corner, Harpster clay loam)	0	Slight	High	Soybeans 1945; corn 1946; oats and mixed clovers 1947; lime has been applied.
WEST NORTH-CENTRAL: Galesburg				
Muscatine silt loam	4	Medium	Very high	Soybeans 1946; oats 1947; red clover-timothy hog pasture 1948; manured 1948.
EAST NORTH-CENTRAL: Sheldon				
Lisbon silt loam	1	Very high	High	Corn 1945; oats 1946; alfalfa pasture 1947-48; 2 tons lime 1947; rock phosphate and potash applied in past.
SOUTH-CENTRAL: Sullivan				
Flanagan silt loam	4	Medium	High	Corn 1943; oats 1944; sweet-clover pasture 1945; corn 1946; oats, sweet clover 1947; corn 1948; 2 tons lime 1947.
SOUTHWESTERN: Alhambra				
Cowden silt loam	0	High	High	Oats 1943; red clover 1944; corn 1945; soybeans 1946; oats 1947; red clover 1948.
EXTREME SOUTHERN: Robbs (Dixon Springs)				
Upland field: Ava silt loam	0	Very low	Medium	Oats 1946; red clover 1947; wheat, sweet clover 1948.
Bottomland field: Bonnie silt loam	1	Very low	Very high	Corn, rye 1946; rye, sweet clover, lespedeza 1947; sweet clover-lespedeza 1948.

The soil-type designations, uniformity, and physical characteristics of the above fields have been approved by HERMAN WASCHER, Assistant Professor of Soil Survey Research.

GROWING CONDITIONS

Generally speaking the growing season of 1949 was another excellent one for corn in Illinois. An extended period of warm, fair weather during late April and early May allowed the best seedbed preparation in many years. Fairly well distributed early rainfall and hot humid days during July favored excellent growth. In fact, the response of the crop to these early growing conditions led to predictions for the highest yield in history.

At harvest time, however, the predicted yields did not materialize.

Their failure was primarily due to two factors: the heaviest corn borer infestation on record and the most severe stalk rot damage observed for many years.

Stands were variable at four test fields. At DeKalb and Galesburg stands suffered from dry periods following planting. The plots at Sheldon and Mundelein were of necessity planted in cold, wet seedbeds, and stands were correspondingly impaired.

A severe windstorm in late July at Sheldon caused almost uniform lodging among all varieties. Lodging at Galesburg, Sullivan, and Mundelein was largely due to corn borers and stalk rots.

A warm, late fall allowed the crop to mature throughout the state, and moisture in the grain at harvest was well below normal. Despite favorable weather, however, the quality of the corn was generally disappointing. A series of factors was responsible for the poor quality — corn borers, stalk rot diseases, leaf blight, lodged plants, dropped ears, and ear rot diseases.

CORN BORER LOSSES

Financial. The European corn borer, *Pyrausta nubilalis* (Hbn.), did greater damage to the Illinois corn crop during 1949 than in any other year since it came into the state. During the fall infestation was about three and one-half times as great as in 1948. Losses increased from about 25 million dollars in 1948 to about 65 million in 1949. (These losses do not, however, take into account the reduction in yield caused by ears that are dropped after borers tunnel into the ear shanks.) The increase in borer numbers can be attributed to two things: extensive early planting, and weather that was practically ideal for maturing the first generation of borers and establishing the second generation. In 1949 the insect moved southward, and for the first time borer damage is reported at Sullivan, in Moultrie county.

Dropped ears and picker losses. "Percent dropped ears" and "Estimated picker loss" have been included for the first time in the record of borer damage (Tables 4 to 7). "Percent dropped ears" is the record of the ears that were already on the ground when picking started, because of borer damage in the ear shank.

"Estimated picker loss" is the number of ears it was estimated

would not be recovered from the plot by a mechanical picker because of borer injury to the ear shanks. To arrive at this figure, the recorder tapped each standing plant with the side of his hand and raised each lodged plant to a horizontal position, then allowed it to drop by its own weight. The ears knocked off by this treatment it is believed would have been knocked off by a mechanical picker and not recovered. Estimates arrived at in this way are probably conservative.

The total corn borer loss for any entry would be the sum of the percentages shown for dropped ears and picker loss.

An actual count in 30 farm fields infested with borers showed an average of 3 percent of the ears dropped before picking and 11 percent dropped after the picker had gone through the field. Assuming an average of 10,000 ears per acre, this 11-percent loss means that because of corn borer damage 1,100 ears per acre remained in the fields after picker harvest. This count was made in an area between McHenry and Champaign counties.

PEDIGREES OF 31 HYBRIDS

Following is a list of open-pedigree hybrids whose performance is shown in this bulletin.

Ill. 21.....(Hy×187-2)(WF9×38-11)
Ill. 101.....(M14×WF9)(187-2×W26)
Ill. 200.....(WF9×38-11)(L317×K4)
Ill. 201.....(WF9×38-11)(L317×187-2)
Ill. 206.....(5120×L317)(WF9×38-11)
Ill. 246.....(Hy×WF9)(L317×187-2)
Ill. 269.....(Hy×WF9)(W8×W32)
Ill. 273-1...(WF9×38-11)(O7×187-2)
Ill. 751.....(A×90)(Hy×WF9)
Ill. 784.....(Hy×5120)(L317×K4)
Ill. 972-1...(Hy×WF9)(L317×O7)
Ill. 972A-1..(Hy×L317)(WF9×O7)
Ill. 1091....(Hy2×WF9)(M14×187-2)
Ill. 1091A..(Hy2×187-2)(M14×WF9)
Ill. 1180....(M14×WF9)(W8×W32)
Ill. 1246.....(R61×187-2)(WF9×38-11)
Ill. 1248.....(R61×O7)(WF9×38-11)
Ill. 1277.....(M14×WF9)(I.205×187-2)
Ill. 1279.....(M14×WF9)(A375×187-2)
Ill. 1337.....(Hy2×R61)(WF9×38-11)
Ill. 1459.....(38-11×K4)(K201×CI.21E)
Ill. 1508.....(L7×L17)(L12×Oh28)
Ill. 1515.....(Hy×B10)(WF9×38-11)
Ill. 1521B...(38-11×CI.21E)(K201×T8)
Ill. 1540A...(38-11×K201)(K155×CI.21E)
Ill. 1540B...(38-11×K155)(K201×CI.21E)
Ill. 1570.....(Hy2×Oh41)(WF9×38-11)
Ill. 2214(W)..(R30×Ky27)(H21×K64)
Ill. 2216(W)..(H21×CI.61)(K64×Ky27)
U. S. 13.....(Hy×L317)(WF9×38-11)
Ohio C-92.....(Hy×O7)(WF9×38-11)

Table 3. — CORN BORER DAMAGE: Three-Year Summary at Three Locations

Rank	Entry	Plants broken below ear[a]	Resistance rating compared with average	Rank	Entry	Plants broken below ear[a]	Resistance rating compared with average
NORTHERN ILLINOIS: Kings 1946, Woodstock 1947, and DeKalb 1949							
		perct.				*perct.*	
1	Funk G-29	4.1	198	8	Illinois 751 (Station)	8.5	95
2	Pride D-66	5.7	142	10	Frey 425	9.0	90
2	Sieben S-450	5.7	142	11	Crow 407	9.3	87
4	Sieben S-340	6.1	133	12	Pioneer 340	10.8	75
5	Illinois 101 (Station)	6.5	125	13	Super-Crost F-138	11.5	70
6	Illinois 1091 A (Station)	7.5	108	14	Crow 360	12.3	66
7	Ferris F-11	7.9	103		Average of all entries	8.1	..
8	National 114-1	8.5	95				
In Column 3 (plants broken below the ear) differences are not significant.							
WEST NORTH-CENTRAL ILLINOIS: Galesburg 1943, 1946, and 1949							
1	Pioneer 339	6.5	189	6	Crow 633	12.9	95
2	Holmes Utility 29	8.4	146	6	Lowe 520	13.0	95
2	Moews 550	8.4	146	8	U. S. 13[b]	21.9	56
4	Funk G-37	10.7	115		Average of all entries	12.3	..
5	Top Yield M-546	12.5	98				
In Column 3 (plants broken below the ear) differences are not significant.							
EAST NORTH-CENTRAL ILLINOIS: Sheldon 1945, 1947, and 1949							
1	Lowe 520	17.2	149	11	Pioneer 304	27.3	94
2	Producers 940	20.7	124	12	Pioneer 332	27.5	93
3	Illinois 21[c]	21.5	120	13	Lowe 523	28.2	91
4	Frey 644	22.5	114	14	Crow 608	28.8	89
4	Keystone 38	22.5	114	15	Kelly K-374	29.5	87
6	U. S. 13	23.4	110	16	Crow 633	30.8	83
7	Pioneer 300	23.6	109	17	Frey 645	32.0	80
8	Frey 692	24.1	107	18	Kelly K-77	32.8	78
9	Producers 730	25.6	100		Average of all entries	25.7	..
10	Pioneer 313B	27.1	95				
In Column 3 (plants broken below the ear) differences are not significant.							

[a] Only those plants broken below the ear at the point of borer damage were included. [b] Average of two entries submitted by Lepper and Station in 1949. [c] Average of two entries submitted by Pfeifer and Station in 1949.

Table 4. — CORN BORER DAMAGE: Northern Illinois, DeKalb, 1949

Rank	Entry	Plants broken below ear[a]	Resistance rating compared with average[b]	Dropped ears	Estimated picker loss
		perct.		*perct.*	*perct.*
1	Doubet D-1E	2.3	457	5.3	0
2	Ainsworth X-12	3.3	318	2.0	.7
3	Illinois 1279 (Station)	3.4	309	0	.7
4	Illinois 1277 (Station)	4.2	250	2.1	0
5	Pioneer 4040	4.3	244	5.0	0
6	Funk G-29	4.4	239	0	.7
7	Bear OK-411	4.8	219	1.4	0
8	Illinois 101 (Station)	5.6	188	0	0
8	Lowe 38	5.6	188	2.1	0
10	Moews 14	6.0	175	1.3	0
11	Moews 85	6.4	164	.7	.7
11	Holmes Utility 11	6.4	164	1.4	.7
13	P.A.G. 253	6.5	162	1.6	.8
14	Keystone 44	6.7	157	1.3	0
15	Funk G-50	6.9	152	2.8	0
16	Cargill 250	7.0	150	2.5	1.3
17	P.A.G. 282	7.3	144	1.2	1.2
18	Pioneer 352	7.6	138	0	.6
19	Iowealth AF-11	7.9	133	2.6	.7
20	Holmes Utility 11A	8.1	130	2.7	0
21	P.A.G. 61	8.2	128	2.5	1.9
22	Pride D-66	8.3	127	.7	1.4
22	Pioneer 340	8.3	127	4.5	1.3
24	P.A.G. 299	8.4	125	1.3	1.3
25	Pfister 187 Hybrid LF 456	8.5	124	2.6	.7
26	Crow 407	8.7	121	.7	.7
26	Hulting J-41	8.7	121	6.7	.7
28	Nichols 5AA	8.8	119	1.3	1.9
29	Hulting 240	8.9	118	3.2	.6
30	Sieben S-440E	9.0	117	0	.7
30	Producers 305	9.0	117	1.6	0
32	Moews 15	9.1	115	3.5	2.1
33	Lowe 52	9.3	113	0	.6
33	Crow 432	9.3	113	.7	.7
35	Pride D-56	9.4	112	0	2.0
35	Frey 410	9.4	112	2.2	.7
37	Nichols 5B	9.9	106	2.5	.6
37	Illinois 1091A (Station)	9.9	106	0	.7
37	Pioneer 349	9.9	106	.7	.7
40	Frey 425	10.1	104	1.3	2.0
40	Ainsworth X-21	10.1	104	1.3	2.5
42	Super-Crost FD-3A	10.3	102	.6	1.9
42	Keystone 33	10.3	102	7.7	0
44	Sieben S-450	10.4	101	.6	1.2
45	Sieben S-340	10.5	100	3.3	0
46	Ponder P-205	10.7	98	1.3	1.3
46	Appl A-202	10.7	98	2.7	0
48	Producers E102B	10.8	97	2.4	.6
49	Appl A-136	11.2	94	1.4	1.4
50	National 114-1	11.3	93	.6	1.3
50	Ferris F-11	11.3	93	.7	1.4
52	Bear OK-212	11.8	89	1.2	0
53	Illinois 1508 (Station)	11.9	88	3.0	.7
53	Stiegelmeier S-360	11.9	88	4.8	.6
55	Producers E114B	12.3	85	1.9	1.9
55	Munson M-3	12.4	85	2.6	2.6
57	Keystone 32	12.8	82	1.4	.7
58	Illinois 751 (Station)	12.9	81	1.5	3.0
59	Iowealth 16	13.1	80	4.8	3.4
60	Pfister 187 Hybrid LF 123	13.6	77	6.4	2.9
61	Pfister 187 Hybrid LF 789	14.0	75	3.3	2.0
62	Producers 315	14.5	72	.6	2.5
63	Ferris F-14	14.7	71	1.2	1.2
63	Top Yield M-105	14.7	71	1.4	3.5
65	Nichols 75	15.5	68	.6	1.2
66	United U-41	15.9	66	2.0	1.3
66	Lowe 32	16.0	66	8.7	2.0
68	Super-Crost 213	16.2	65	1.4	.7
69	Super-Crost F-138	16.3	64	2.1	2.8
70	Ponder P-180	16.6	63	1.2	.6
71	Lowe MME	17.0	62	10.1	1.9
72	Ferris F-12	17.7	59	3.0	0
73	Munson MX	19.2	55	0	1.8
73	Huey H-75	19.2	55	0	2.1
75	Crow 360	23.2	45	5.2	1.3
	Average of all entries	10.5	100	2.1	1.1

The following differences between entries are not significant: in columns showing plants broken below the ear, less than 8.5 points; in columns showing dropped ears, less than 4.1. Differences in estimated picker losses not significant.

[a] Includes only those plants broken below the ear at point of damage by the borer. [b] For broken plants only.

Table 5. — CORN BORER DAMAGE: West North-Central Illinois, Galesburg, 1949

Rank	Entry	Plants broken below ear[a]	Resistance rating compared with average[b]	Dropped ears	Estimated picker loss
		perct.		*perct.*	*perct.*
1	Crow "Deep Root"	11.9	240	3.3	1.1
2	Pfister 187 Hybrid LF 456	14.4	199	7.0	1.7
3	Producers E102B	14.6	196	3.8	1.9
4	Pioneer 339	15.4	186	5.3	2.6
5	P.A.G. 270	17.9	160	6.2	2.7
6	Ferris F-11	18.1	158	4.0	2.4
7	Iowealth AQ	18.2	157	5.9	1.2
8	Morton M-30	18.3	156	2.0	2.0
9	P.A.G. 347	18.5	155	8.5	1.5
10	Holmes Utility 19A	19.7	145	3.1	2.8
11	Moews 14	19.9	144	1.9	2.3
12	Crow 660	20.3	141	2.8	2.0
12	Null N-32	20.3	141	4.1	2.4
14	Moews 550	20.4	140	7.1	1.7
15	Stewart S-11	20.9	137	3.4	1.5
16	Pringle P-100	21.2	135	4.9	1.6
16	Holmes Utility 29	21.2	135	5.2	1.6
18	P.A.G. 170	22.9	125	4.7	2.8
19	Kelly K-77	23.0	124	2.9	3.7
19	National 125-1	23.0	124	5.2	3.2
21	Morton M-12	23.8	120	2.5	2.5
22	United U-47	24.8	115	2.5	2.9
22	Sieben S-340	24.9	115	5.3	.9
24	Sieben S-440E	25.3	113	2.8	3.2
24	National 115A	25.3	113	5.5	2.4
26	Ainsworth X-21	25.8	111	4.7	2.0
27	P.A.G. 392	25.9	110	5.2	2.6
28	Keystone 41	26.5	108	9.0	3.7
28	Pfister 187 Hybrid LF 123	26.5	108	12.0	4.7
30	Hulting 380	27.2	105	1.7	2.5
30	Ferris F-12	27.3	105	3.5	2.0
32	Munson M-H	27.8	103	2.9	5.3
33	Kelly K-42	28.0	102	3.8	2.4
33	Illinois 21 (Station)	28.1	102	4.5	3.7
35	Producers 900	28.2	101	4.0	4.8
35	Funk G-37	28.2	101	5.8	3.7
35	Illinois 1515 (Station)	28.2	101	8.2	3.3
38	Producers 940	28.5	100	5.2	2.0
38	Sieben S-440	28.6	100	2.0	2.4
40	Illinois 1570 (Station)	29.3	98	8.8	3.3
41	Doubet D-3W	29.4	97	2.8	2.0
41	Kelly K-374	29.5	97	6.9	5.7
41	Holmes Utility 39H	29.6	97	5.2	3.5
44	Huey H-42	29.7	96	5.1	4.3
44	Bo-Jac 68	29.7	96	10.9	2.7
46	Producers E114B	30.5	94	9.3	3.5
47	Pfister 187 Hybrid LF 789	30.8	93	4.0	2.2
47	Illinois 972A-1 (Station)	30.9	93	5.0	4.2
47	Hulting 101	30.9	93	6.6	1.6
50	Bear OK-35	31.5	91	3.0	3.0
50	Moews 520	31.5	91	5.5	3.9
52	Pioneer 336	31.9	90	5.5	8.0
53	Stiegelmeier S-340	32.0	89	4.6	1.8
53	Funk G-93	32.1	89	5.7	4.1
53	Iowealth 16	32.2	89	5.1	3.0
56	Stiegelmeier S-370	32.5	88	9.0	3.0
57	Lowe 520	32.8	87	8.1	7.3
57	Baird 380	33.0	87	5.2	1.7
59	Doubet D-11	33.2	86	4.3	3.9
59	Illinois 273-1 (Tiemann)	33.2	86	5.1	4.7
59	Cargill 339	33.2	86	6.2	3.3
59	Appl A-136	33.3	86	4.0	4.0
63	Crow 633	34.0	84	4.1	3.7
64	Schwenk S-24	34.5	83	8.1	2.7
64	Super-Crost FD-7	34.6	83	2.6	2.6
66	Top Yield M-546	34.8	82	7.3	2.1
66	Bear OK-50	34.9	82	2.1	2.5
66	Pioneer 304	34.9	82	8.2	3.5
69	Lowe 514	35.1	81	9.2	5.6
69	Lowe 562	35.1	81	9.3	3.9
69	Funk G-95	35.4	81	10.7	4.5
72	U. S. 13 (Lepper)	36.1	79	7.8	3.5
72	Ainsworth X-13-3	36.2	79	8.6	5.6
72	Huey H-23	36.4	79	10.0	4.1
75	Super-Crost F-169	36.6	78	8.9	3.6
76	Schwenk S-34	37.0	77	8.3	4.7
77	Illinois 1337 (Station)	38.4	74	8.0	7.6
78	Munson M-13	39.9	72	7.4	6.6
79	U. S. 13 (Station)	41.4	69	8.3	4.9
80	Ainsworth X-201	44.6	64	5.8	6.2
81	Pioneer 313B	46.7	61	5.4	6.5
	Average of all entries	28.6	100	5.7	3.3

The following differences between entries are not significant: in columns showing plants broken below the ear, less than 10.3 points; in columns showing dropped ears, less than 4.5; in columns showing estimated picker loss, less than 3.3.

[a] Includes only those plants broken below the ear at point of damage by the borer. [b] For broken plants only.

Table 6. — CORN BORER DAMAGE: East North-Central Illinois, Sheldon, 1949

Rank	Entry	Plants broken below ear[a]	Resistance rating compared with average[b]	Dropped ears	Estimated picker loss
		perct.		*perct.*	*perct.*
1	Crow "Deep Root"	4.6	354	.7	0
2	Morton M-30	6.5	251	0	.6
3	Illinois 1515 (Station)	7.9	206	5.3	3.3
4	Super-Crost S-12	8.1	201	.7	.7
5	DeKalb 627	8.9	183	1.3	0
6	Pfister 187 Hybrid LF 456	9.1	179	1.9	1.3
7	Frey 425	9.9	165	3.7	1.9
8	Sieben S-440E	10.4	157	0	.6
9	Frey 692	10.6	154	2.8	1.4
10	Funk G-211	11.0	148	0	.7
10	DeKalb 800A	11.0	148	1.4	1.4
10	Farmcraft PC-63	11.0	148	2.8	1.4
10	Iowealth AQ	11.0	148	3.0	1.2
10	Crow 660	11.0	148	3.2	.6
15	Illinois 21 (Pfeifer)	11.2	146	.7	1.4
15	Hulting 380	11.2	146	1.3	2.6
17	Moews 18	11.3	144	2.3	.8
18	National 115A	11.5	142	2.7	0
19	Bear OK-50	11.8	138	3.9	.7
20	Sieben S-440	12.1	135	4.5	0
21	Moews 520	12.7	128	0	1.3
22	Pioneer 304	12.9	126	3.7	2.5
23	Crow 633	13.1	124	4.9	4.1
24	Bear OK-31	13.5	121	1.9	1.9
25	Produeers 940	13.6	120	3.9	1.3
26	Morton M-12	13.7	119	1.3	3.3
27	Holmes Utility 39H	13.8	118	3.6	2.2
28	Stiegelmeier S-340	14.1	116	2.7	3.4
28	Pfister 187 Hybrid LF 123	14.1	116	8.1	2.7
30	Doubet D-3W	14.5	112	1.4	2.1
30	Doubet D-11	14.5	112	2.4	3.0
32	Null N-49	14.9	109	4.7	2.7
32	Lowe 520	14.9	109	4.8	3.0
34	Producers 730	15.1	108	.8	.8
34	Stiegelmeier S-370	15.1	108	5.3	2.6
36	Illinois 1248 (Seeber)	15.2	107	0	2.1
36	Ainsworth X-21	15.2	107	1.2	1.2
38	Illinois 1091 (Mountjoy)	15.7	104	3.6	1.4
39	Hulting 101	15.8	103	1.3	.7
40	P.A.G. 173	16.0	102	1.5	3.1
40	Bear Tapicorn 4	16.0	102	1.8	2.5
40	Keystone 38	16.0	102	2.1	0
43	P.A.G. 392	16.1	101	2.5	2.5
44	Sibley 777	16.4	99	3.4	2.1
44	Funk G-93	16.4	99	5.0	1.3
44	Illinois 972 (Appl)	16.5	99	3.5	2.6
47	Illinois 1246 (Holder)	16.8	97	4.3	4.3
48	Pfister 187 Hybrid LF 789	17.2	95	4.0	1.3
49	P.A.G. 164	17.3	94	9.6	1.3
50	Moews 14	17.5	93	.6	3.2
50	Funk G-95	17.6	93	1.2	2.4
50	Pike 520	17.6	93	2.0	7.2
50	Super-Crost 746	17.6	93	4.2	2.1
50	Frey 644	17.6	93	5.9	2.6
55	P.A.G. 175	17.7	92	4.8	3.4
56	Super-Crost FC-6	17.9	91	1.4	1.4
56	Pioneer 300	18.0	91	2.0	.7
58	Ainsworth X-13-3	18.1	90	3.4	.7
58	Lowe 514	18.2	90	2.3	4.5
60	Appl A-1766	18.8	87	2.0	5.4
61	Corn Belt 60A	19.3	84	.7	.7
61	Illinois 1508 (Station)	19.3	84	.7	2.0
61	Illinois 21 (Station)	19.5	84	.6	1.9
64	Illinois 1570 (Station)	19.6	83	5.5	3.1
64	Illinois 273-1 (Tiemann)	19.7	83	2.0	2.6
66	Pioneer 332	19.9	82	3.2	3.2
66	Crow 608	20.0	82	.8	1.6
68	Kelly K-77	21.0	78	1.9	1.9
69	Ainsworth X-201	21.4	76	1.9	1.3
70	Farmcraft FC-69	22.1	74	1.3	2.7
71	Lowe 580	23.7	69	4.5	4.5
72	Keystone 41	23.9	68	5.8	4.5
73	Bear OK-88T	24.3	67	1.4	4.2
74	Produeers 900	24.8	66	5.0	2.8
75	Schwenk S-34	25.0	65	3.9	3.9
75	Lowe 523	25.2	65	3.1	4.9
77	Kelly K-374	25.3	64	1.2	1.9
78	Illinois 1337 (Station)	26.1	62	3.1	4.3
79	Pioneer 313B	26.6	61	5.1	5.7
80	Frey 645	28.0	58	3.6	2.4
81	U. S. 13 (Station)	30.7	53	3.3	3.3
	Average of all entries	16.3	100	2.8	2.2

The following differences between entries are not significant: in columns showing plants broken below the ear, less than 9.9 points; in columns showing dropped ears, less than 4.2; in columns showing estimated picker loss, less than 3.4.

[a] Includes only those plants broken below the ear at point of damage by the borer. [b] For broken plants only.

Table 7. — CORN BORER DAMAGE: South-Central Illinois, Sullivan, 1949

Rank	Entry	Plants broken below ear[a]	Resistance rating compared with average[b]	Dropped ears	Estimated picker loss
		perct.		*perct.*	*perct.*
1	Crow "Deep Root"	.5	920	.5	0
2	Crow 660	.9	511	0	0
3	Castle Ohio C-92	1.3	354	1.8	0
4	Moews 18	1.4	329	.9	.5
5	Morton M-30	1.8	256	.4	0
6	DeKalb 875	1.9	242	.5	.5
6	Kelly K-88	1.9	242	.9	0
8	Illinois 1570 (Station)	2.2	209	2.2	.4
8	Doubet D-41	2.2	209	4.4	.4
10	Whisnand 804	2.3	200	.9	1.4
11	P.A.G. 164	2.6	177	.9	.9
12	Bo-Jac 28	2.7	170	1.4	.5
12	Illinois 1337 (Station)	2.7	170	2.7	.4
14	Pfister 187 Hybrid LF 123	2.9	159	1.4	.5
15	Keystone 45	3.0	153	0	.9
16	Illinois 21 (Powers)	3.1	148	.4	.9
17	Morton M-12	3.2	144	.5	.5
17	Appl A-130	3.2	144	.9	0
17	Canterbury 404	3.2	144	.9	0
17	Kelly K-77	3.2	144	.9	.9
17	National 125-1	3.2	144	1.4	0
22	Moews 830	3.3	139	.5	.5
23	P.A.G. 392	3.4	135	1.3	2.1
24	Funk G-512(W)	3.5	131	1.8	.4
25	Illinois 2216(W) (Station)	3.6	128	.9	.9
25	Kelly K-44	3.6	128	1.3	.4
25	Ainsworth X-21	3.6	128	1.8	.9
28	Crow 805	3.7	124	.9	.9
28	DeKalb 825	3.7	124	3.7	1.4
30	Bear OK-66	3.9	118	.4	.9
30	Producers 940	3.9	118	.9	.9
30	Pfister 187 Hybrid LF 456	3.9	118	1.0	.5
33	Steigelmeier S-370	4.0	115	1.8	.9
33	Super-Crost 708(W)	4.0	115	2.0	1.0
35	Bear Tapicorn 4	4.1	112	1.4	.5
35	Doubet D-11	4.1	112	2.3	.9
37	Producers 730	4.3	107	1.6	0
38	Illinois 21 (Stone)	4.5	102	.9	0
38	Illinois 1337 (Pfeifer)	4.5	102	.9	2.3
40	Keystone 41	4.6	100	.9	1.8
41	Iowealth 25	4.7	98	0	.5
41	U. S. 13 (Station)	4.7	98	1.7	.4
43	National 125	4.8	96	2.2	.4
43	Pioneer 300	4.8	96	3.1	.4
45	Illinois 201 (Mountjoy)	4.9	94	1.8	.4
45	Illinois 13 (Stone)	4.9	94	3.1	.4
47	Lowe 514	5.0	92	4.1	.5
48	DeKalb 847	5.1	90	3.4	.9
49	P.A.G. 170	5.3	87	1.8	0
50	Funk G-79	5.4	85	.9	.4
51	Producers 900	5.5	84	.9	.9
51	Illinois 1515 (Station)	5.5	84	2.5	.4
53	Funk G-98	5.6	82	0	2.6
53	Iowealth 25A	5.6	82	.9	1.9
55	Illinois 972-1 (Pfeifer)	5.7	81	.9	1.7
55	Illinois 972A-1 (Stone)	5.7	81	1.0	.5
55	Embro 36	5.7	81	1.3	1.8
58	Lowe 640	5.8	79	.4	1.3
58	Ainsworth X-13-3	5.8	79	.9	.9
58	Illinois 206 (Pfeifer)	5.8	79	1.3	1.3
58	Canterbury 420	5.8	79	1.3	1.3
62	Crow 608	5.9	78	1.4	.5
62	Producers 1050	5.9	78	1.4	2.3
62	Bear OK-72	5.9	78	1.8	1.4
65	Pioneer 313A	6.0	77	0	1.3
65	Whisnand 804D	6.0	77	.9	.4
67	Illinois 201 (Station)	6.1	75	.5	1.9
68	U. S. 13 (Pfeifer)	6.2	74	1.8	.9
69	DeKalb 821	6.3	73	0	1.9
69	U. S. 13 (Wilson)	6.3	73	.9	.9
71	Pioneer 313B	6.6	70	.4	.9
72	Lowe 523	6.7	69	2.9	1.9
73	Holmes Utility 39C	6.8	68	2.9	0
74	P.A.G. 173	7.0	66	2.6	1.7
75	Pioneer 332	7.1	65	1.4	1.9
76	Pfister 187 Hybrid LF 789	7.3	63	2.0	2.4
77	Funk G-99	7.6	61	1.9	1.4
78	Illinois 200 (Butzow)	8.0	58	.9	.9
79	Null N-77	9.0	51	.9	1.9
80	Ponder P-814	9.3	49	1.5	.5
81	Ainsworth X-14A	10.6	43	.9	1.3
	Average of all entries	4.6	100	1.4	.9

In columns showing plants broken below the ear, a difference of less than 4.3 points is not significant. Differences in dropped ears and estimated picker losses are not significant.

[a] Includes only those plants broken below the ear at point of damage by the borer. [b] For broken plants only.

DISEASE DAMAGE[1]

Stewart's disease. Stewart's disease, or bacterial blight, is caused by a bacterium that lives over winter in the body of the corn flea beetle. In 1949 corn was infected with it in all but the northern quarter of the state, the worst damage occurring in south-central Illinois. In the area from Macon and Christian counties westward, the leaves of all the plants had been completely killed in many fields by early September. In the spring of 1949 damage from this disease was forecast. Next March a prediction for 1950 can be made. These forecasts are based on winter temperatures.

Helminthosporium leaf blight. This blight was more prevalent than usual throughout the state. It was especially damaging, however, in the area from Watseka southward and east of highway U.S. 45. In this area all the leaves in some fields were completely killed by the end of August. In such fields the damage was the worst ever noted in Illinois from this disease. The cause of the disease is a fungus, *Helminthosporium turcicum,* whose development depends largely on a protracted period of warm, humid weather.

Stalk rots. Several different fungi and a bacterium cause corn stalk rots in Illinois. The first to develop were bacterial and pythium stalk rots, which appeared in early July. These rots developed primarily in the Wabash, Ohio, and Mississippi river bottoms but also appeared in some other locations. These diseases cause the stalk to rot off, usually within a foot of the ground, and the plants to topple over while they are still green. Hot, humid weather is necessary to the development of these types of stalk rot. Because of its local nature, the damage for the state was slight.

The stalk rots that were responsible for the real damage this year were caused by the fungi *Diplodia zeae* and *Gibberella zeae.* On the whole, Diplodia was the more damaging, but in many fields Gibberella was the main trouble. The two often occurred in nearly equal prevalence, frequently on the same stalk. In general appearance these stalk rots are very much alike. The surface of the lower part of the stalk becomes darkly discolored in localized areas, then the leaves die unless they have already been killed by leaf blight, then the stalks die

[1] Data on disease prevalence and estimates of losses are based in part on surveys made by G. H. Boewe, Assistant Plant Pathologist, Illinois State Natural History Survey.

Table 8. — ROT DAMAGE CAUSED BY FUNGI: Average of All Entries in Eight Test Fields, 1949

(Figures are based on laboratory tests)

Rank[a]	Fungi causing damage	Corn kernels damaged by rot at—							
		Mundelein	DeKalb	Galesburg	Sheldon	Sullivan	Alhambra	Dixon Springs	
								Bottomland	Upland
		perct.	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*	*perct.*
1	Fusarium moniliforme	.66	.38	1.18	1.50	.67	.79	1.76	2.07
2	Diplodia zeae	.09	.73	.79	.66	1.74	.13	.13	0
3	Gibberella zeae	.21	.16	.09	.27	.27	.30	.05	.20
4	Penicillium spp.	.22	.15	.51	.27	.12	.10	.03	.20
5	Nigrospora oryzae	.05	.03	.04	0	.02	.04	.01	.12
6	Hormodendrum sp.	.12	.05	.06	.02	.02	.01	0	.02
	Miscellaneous	.08	.03	.09	.13	.04	.08	.03	.08
	Total	1.43	1.53	2.76	2.85	2.88	1.45	2.01	2.69

[a] Based on total damage.

and finally break down. Breaking occurs most severely after Gibberella damage, but Diplodia has also sometimes caused 90 percent of the stalks in a field to go down.

When leaf blights from bacterial wilt and Helminthosporium occurred severely in August and were widespread, it could be predicted that Diplodia stalk rot would be bad. Gibberella followed for good measure.

Stalk rots became most severe in the southern half of the state, where leaf blights had been most severe, as disease studies in 59 counties representing all parts of Illinois showed. The combined damage from leaf blights and stalk rots in this area was estimated at 20 percent. In the northern half of the state, and especially in the northern quarter, there was much less leaf blight, but in the northern half the prevalence of corn borers was higher. Corn borers increase stalk-rot damage by making the interior tissues of the stalks more accessible to the fungus spores (page 479). Leaf blight, however, appeared to be more important than the corn borers as a forerunner of stalk rot. Combined damage for leaf blight and stalk rots was assessed at 13 percent in the northern half of the state. For the state as a whole the estimated damage was 16.5 percent. This estimate does not include damage ascribed directly to corn borers (for borer damage, see pages 470-476). The past season marked the worst occurrence of stalk rot since 1938.

Smut. Of 4,300 corn plants examined in 37 scattered counties,



Cornstalks inoculated with Diplodia zeae. Note hole made by injector (*left*). Stalks cut open show a moderately resistant reaction to this rot (*middle*) and a susceptible reaction (*right*). Breeders often inoculate plants with Diplodia to determine their resistance to this stalk rot. (Fig. 1)



Cornstalks entered by European corn borer. Stalk (*left*) shows entrance hole. Stalks cut open show extensive Diplodia rot. The borer had probably become polluted with spores of the disease and thus may have served as an inoculator. Stalk rot is often associated with borer damage and may cause even more damage than the borers. (Fig. 2)

5.3 percent had prominent smut infections. The loss for the state from these infections was estimated at 1.6 percent. This is the highest since 1940.

Ear rots. Samples of shelled corn are taken each year from each entry on each field and the percent of rot-damaged corn is determined. The different entries vary considerably in rot damage (see Tables 9 to 15, noting especially the three-year averages, which are more reliable than the results of any one year). The rot-damaged kernels are next tested in the laboratory to determine the cause of the rot. The results of the tests for 1949 are summarized in Table 8. The rot percentages averaged a little higher than they did in 1948 and are the highest since 1945. While the different test fields did not vary greatly in total rot damage, they varied considerably in kind of rot damage. In a few farmers' fields that were examined the total rot was much higher than on the test fields.

On the average, kernels rotted by Fusarium were much more plentiful than those rotted by Diplodia, although the reverse was true at DeKalb and Sullivan. In 1948 Diplodia was most prevalent in most fields. Significant amounts of Hormodendrum are usually a sign of premature frost damage. Its prevalence diminished from Mundelein southward.

MEASURING PERFORMANCE

The entries in the 1949 test are listed in the tables in the order of their *total* yields.

Yield of grain. To determine shelling percentage, all the ears from one replicate of each entry were shelled. At Dixon Springs, however, because it was not practicable to shell all the ears in a replication, the shelling percentage of all entries was assumed to be 80 percent. A sample of shelled corn was taken from the Dixon Springs plots by hand-shelling 8 ears of each entry in one replication.

From the shelled corn one sample was taken to determine the percentage of moisture at harvest[1] and to determine the percentage of damaged kernels. The percentage of damaged corn was determined according to the federal grain standards.

The total acre-yield was calculated as shelled corn containing 15.5 percent moisture, the upper limit allowable in No. 2 corn. The total yield thus

[1] All moisture determinations were made with a Steinlite moisture tester.

obtained for four fields (Sullivan, Galesburg, Sheldon, and Alhambra) was adjusted according to the procedure outlined by Cochran for randomized lattice-square designs.[1]

Erect plants. The percentage of erect plants in each plot of each entry on each field was estimated at the time of harvest. Lodging may have been due to rootworm damage, weak or rotted roots, corn borer damage, stalk rots, or weak stalks. Stalks broken above the ear were not considered lodged.

Height of ear. Notes on comparative height of ear were taken at harvest time. Each plot of each entry was placed in one of the five following categories: *low, mid-low* (midway between low and medium), *medium, mid-high* (midway between medium and high), and *high*. Beginning with *low* and continuing progressively to *high*, these terms were assigned numerical values from 1 to 5 to permit the averaging of the plots.

Stand. A count was made in late summer, at all fields, of the number of missing hills and total number of missing plants in each plot of each variety. Yields were corrected for missing hills by the following adjustment:

$$\text{Ear weight in field} \times \left(1 + \frac{\text{missing hills}}{\text{hills present}} \times .6\right) = \text{adjusted ear weight.}$$

The percent stand is based on the total number of missing plants in relation to the number that would have been present if all the kernels had produced plants. Stand differences may be due to poor germination, to disease, insect, or rodent destruction, or in some cases to destruction in cultivation. It is believed that because of the conditions under which these tests are run missing hills are generally the result of accidents in cultivation.

Oil and protein analysis. For the second time, a sample of each entry on each field was sent to the Northern Regional Research Laboratory at Peoria for an analysis of the oil and the protein content of the grain. These analyses were made on a moisture-free basis.

Significance of yield differences. Too much confidence must not be placed in the particular ranking of a hybrid in the following tables, for chance has played a part in determining its position. Unaccountable variability in the soil and conditions on the field will cause differences in yield that are not inherent in the hybrids themselves.

The part played by chance in the 1949 tests has been calculated for total

[1] Cochran, W. G. "Some Additional Lattice-Square Designs." *Iowa Agr. Exp. Sta. Res. Bul. 318.* May, 1943.

yield by the mathematical procedure known as "analysis of variance." In each table is shown the approximate difference there must be between any two entries in order for them to show a true inherent difference. Unless two hybrids differ by at least this amount, there is no assurance that one hybrid is inherently higher yielding than the other.

RESULTS OF TESTS

Detailed results of the tests on six regular test fields and the two special soil-adaptation fields are given in Tables 9 to 16 on the following pages. See also Table 8 on page 478 on ear-rot damage.

Readers are urged to keep in mind these two things when comparing the performance of hybrids on any one field:

1. Small differences in yield do not necessarily indicate the superiority of one hybrid over another. See each table for the amount one hybrid must exceed another before it can be considered better.

2. The summary section of each table is more reliable for evaluating those hybrids that have been tested for three years than is the single record for the current year. The fact that a hybrid does not appear in the summary is, however, nothing against it — its absence merely means that 1949 was the first year it was tested or that it missed one year of the series.

Table 9. — NORTHEASTERN ILLINOIS: Mundelein, 1949

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
1	Illinois 1180 (Huebsch)	100.4	1.0	22.4	83	79	Medium	11.1	5.0
2	Nichols 99	97.0	.7	22.9	80	86	High	11.1	5.1
3	Pioneer 349	94.6	2.1	22.0	76	80	Medium	10.9	4.9
4	Nichols 5B	94.1	.6	23.1	83	89	Medium	10.6	5.1
5	Pioneer 352	93.7	2.9	19.9	78	89	M-low	11.0	5.0
6	Pioneer 300	93.3	2.8	25.7	75	86	High	10.8	4.7
7	Nichols 75	92.3	2.7	24.1	83	87	High	10.4	4.9
8	Ainsworth X-21	92.1	3.9	24.8	80	86	High	11.0	4.4
9	Funk G-27	90.9	4.6	21.9	78	87	M-low	11.3	5.0
10	Appl A-202	88.8	1.9	23.1	79	84	M-high	11.3	5.1
11	Moews 87	88.3	2.2	20.7	79	84	High	10.2	5.1
12	Huebsch 44	87.7	1.5	22.1	74	80	High	11.6	5.0
13	Pioneer 377A	87.6	.5	18.6	64	87	Medium	10.6	4.9
14	DeKalb 410	87.5	.7	21.8	76	77	M-low	10.2	5.1
15	Frey 410	87.2	2.2	23.5	78	84	Medium	11.0	5.0
16	Nichols 202	85.4	1.8	22.7	80	78	M-high	10.9	5.1
16	DeKalb 239	85.4	1.0	21.2	70	71	Medium	10.1	4.8
18	Ainsworth X-12	84.2	1.1	23.8	78	87	M-low	9.9	4.3
18	Producers 305	84.2	.7	22.9	71	82	M-high	11.6	5.0
20	DeKalb 422	83.6	.5	23.0	66	87	M-high	10.4	4.9
21	Illinois 101 (Huebsch)	83.3	2.2	22.6	83	86	M-low	11.1	5.1
22	Funk G-68	82.9	.6	20.5	66	82	M-low	10.5	5.3
22	DeKalb 404A	82.9	.5	22.7	69	77	Medium	12.3	5.3
24	DeKalb 241	82.8	1.4	21.9	80	82	Medium	11.1	5.0
24	Super-Crost 85A	82.8	.6	20.2	51	82	Low	11.2	5.0
26	Illinois 269 (Huebsch)	82.6	1.6	23.6	74	76	Medium	11.6	4.8
27	P. A. G. 56	82.3	.7	21.4	68	82	M-low	11.3	5.0
28	Ferris F-11	82.2	.3	21.6	80	78	M-high	11.1	5.1
29	Nichols 202A	81.9	.9	22.4	79	81	Medium	11.3	5.0
30	Producers 311	81.6	.3	22.6	73	82	Low	11.2	5.0
31	Super-Crost F-138	81.4	1.2	22.1	73	83	High	10.7	4.6
32	Producers 315	80.8	2.8	23.1	75	72	Medium	10.9	5.1
33	Pride D-45A	80.1	1.4	20.4	69	84	Low	10.7	5.2
34	P. A. G. 61	79.5	.6	20.7	80	77	Medium	11.1	4.7
35	Super-Crost 213	79.1	.7	20.5	66	82	M-low	11.1	5.1
36	Producers 320	78.0	.4	23.9	81	82	Medium	10.9	4.9
37	Moews 85	77.8	1.0	22.7	80	77	M-low	11.8	4.8
38	DeKalb 406	75.1	2.6	21.8	71	75	Medium	12.3	5.0
39	Bear OK-111	74.6	.6	22.1	68	89	M-low	11.1	5.1
40	DeKalb 240	72.3	1.2	20.5	60	75	Medium	11.3	4.9
	Average of all entries	85.1	1.4	22.2	74	81		11.0	5.0

There are no significant differences between yields of any two entries.

Table 10. — NORTHERN ILLINOIS: Woodstock and DeKalb
(Woodstock 1947, DeKalb, 1948, 1949)

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
SUMMARY 1947-1949: Less than 4.3 bushels difference between total yields of any two entries is not significant.									
1	Pioneer 349	60.5	.8	24.0	88	..	Medium		...
2	P.A.G. 299	60.4	3.1	22.4	94	..	M-low		...
3	Keystone 44	60.1	.9	25.9	95	..	M-low		...
4a	Illinois 101	59.5	1.0	24.4	92	..	Medium		...
5	Lowe 52	59.3	3.5	25.1	91	..	Medium		...
6	Illinois 1091A (Station)	58.9	2.9	26.8	89	..	Medium		...
7	Sieben S-340	58.5	1.0	28.3	90	..	M-high		...
8	Crow 407	58.1	3.2	25.2	91	..	Medium		...
9	Super-Crost F-138	57.4	1.7	25.3	89	..	Medium		...
9	Illinois 751 (Station)	57.4	1.7	25.0	87	..	Medium		...
11	Pride D-66	56.6	.4	26.3	94	..	Medium		...
12	Ferris F-11	56.0	.8	24.2	91	..	Medium		...
12	Munson M-X	56.0	1.2	25.8	91	..	M-low		...
14	Pioneer 4040	55.6	2.9	26.8	91	..	Medium		...
15	National 114-1	55.3	.6	24.5	93	..	Medium		...
16	Crow 360	54.6	.3	28.3	78	..	M-high		...
17	Moews 14	54.3	1.0	25.0	93	..	M-low		...
18	Producers 315	53.9	3.6	24.8	87	..	M-low		...
19	Producers 305	53.7	.4	22.5	95	..	M-low		...
20	Lowe 32	52.5	.6	23.3	92	..	Medium		...
	Average of all entries	56.9	1.6	25.2	91	..			...
1949 RESULTS: Less than 8.3 bushels difference between total yields of any two entries is not significant.									
1	Lowe 52	70.1	3.0	18.4	94	90	Low	8.2	4.7
2	Bear OK-411	69.8	1.2	18.1	91	85	Medium	9.1	4.7
3	Keystone 32	68.7	.1	18.4	92	84	M-low	8.2	4.2
4	Ferris F-12	68.2	1.5	18.3	87	89	High	8.5	4.2
5	Ainsworth X-21	67.5	1.4	18.8	91	86	High	8.9	4.4
6	Bear OK-212	66.1	2.1	18.2	91	85	Medium	9.1	4.9
7	Ainsworth X-12	65.7	7.2	19.1	93	86	M-low	9.1	3.6
8	P.A.G. 253	65.6	2.9	17.5	91	74	M-low	8.4	4.5
9	P.A.G. 299	64.3	1.3	18.4	91	88	M-low	8.2	4.4
10	Ferris F-14	63.8	1.5	18.0	91	86	Medium	9.9	3.9
11	Producers E102B	63.6	1.3	18.8	91	93	Medium	8.8	4.3
12	Sieben S-340	63.1	1.3	18.3	93	84	High	8.2	4.3
13	Illinois 1279 (Station)	63.0	.8	17.8	95	87	M-low	8.4	4.3
14	Nichols 75	62.6	1.0	18.5	93	90	M-low	8.4	4.5
15	Illinois 1091A (Station)	62.5	1.5	17.9	93	83	M-low	8.4	4.2
16	National 114-1	62.4	.9	18.3	94	88	M-low	8.6	4.5
17	Frey 410	61.8	1.0	17.4	91	78	M-low	10.2	4.5
18	Nichols 5B	61.6	.4	17.4	91	87	Medium	9.9	4.3
18	Producers E114B	61.6	1.8	18.8	89	88	M-low	8.2	4.7
20	Keystone 44	61.5	1.1	18.1	93	86	M-low	9.3	3.5
21	Holmes Utility 11	61.4	1.0	16.9	90	81	Medium	8.9	4.6
21	Hulting 240	61.4	.9	16.6	95	81	M-low		...
21	Pride D-56	61.4	.5	16.6	92	82	Medium	9.8	4.5
24	Crow 432	61.3	.6	17.9	88	76	Medium	9.0	4.6
25	Cargill 250	61.0	1.0	18.0	92	87	M-high	9.9	4.1
25	Frey 425	61.0	2.8	18.3	91	82	Medium	8.9	4.4
27	Lowe 38	60.7	2.7	17.8	92	84	M-low		...
28	Nichols 5AA	60.6	.6	17.8	93	81	Medium	8.8	4.5
29	Sieben S-450	60.3	.8	17.9	92	87	Medium	9.5	4.4
29	Top Yield M-105	60.3	1.0	18.1	94	85	M-low	9.4	4.7
31	Ponder P-180	60.1	5.5	17.9	90	87	M-low	8.6	4.6
32	Illinois 1277 (Station)	59.9	.5	17.9	95	85	Medium	8.6	4.4
33	Super-Crost FD-3A	59.8	1.0	17.1	90	83	Low	8.8	4.4
34	Illinois 101 (Station)	59.3	1.1	18.1	92	75	M-low	8.6	4.5
35	Keystone 33	58.8	1.8	18.7	94	88	Medium	8.6	3.9
36	Moews 85	58.7	.9	17.0	96	81	Medium	9.5	4.8
37	Appl A-202	58.4	1.1	18.3	88	84	Medium	9.6	4.4
38	Sieben S-440E	58.3	.5	18.2	92	76	M-low	8.2	4.2
39	Ponder P-205	58.1	1.7	18.1	91	86	Medium	8.2	4.6

(Table is concluded on next page)

Table 10. — NORTHERN ILLINOIS: Woodstock and DeKalb — concluded

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	1949 RESULTS — concluded								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
40	Moews 15	58.0	3.1	18.6	89	82	M-low	8.1	4.1
41	United U-41	57.9	1.1	17.5	90	82	M-high	10.2	4.7
42	Pfister 187 Hybrid LF 456	57.7	1.0	17.1	92	86	M-high	8.4	4.0
43	Funk G-50	57.6	.9	18.8	89	79	High	8.8	4.3
43	Iowealth AF-11	57.6	1.1	17.9	93	84	Medium	8.9	4.4
43	P.A.G. 61	57.6	3.0	17.5	90	86	Medium	9.0	4.2
46	Lowe MME	57.5	1.0	19.2	89	88	High	8.8	4.0
47	Hulting J-41	57.3	.6	18.0	92	85	Medium	8.5	4.5
48	Pfister 187 Hybrid LF 789	57.2	.7	18.0	91	79	M-high	9.3	4.3
49	Holmes Utility 11A	57.0	1.1	16.9	90	87	Medium	9.4	4.4
50	Huey H-75	56.5	1.0	19.3	89	76	Medium	9.4	4.5
50	Iowealth 16	56.5	1.5	18.0	90	75	Medium	9.8	4.3
52	Lowe 32	56.4	.8	17.9	90	82	M-high	9.1	3.7
53	Pioneer 352	56.2	5.2	16.2	94	82	Low	8.7	4.3
54	Funk G-29	56.1	5.7	18.1	95	77	M-low	9.0	3.7
55	Pioneer 4040	55.5	1.2	17.4	96	78	M-high	8.5	3.8
56	Illinois 751 (Station)	55.4	1.2	18.7	88	73	M-low	10.6	3.8
56	Pioneer 340	55.4	2.4	17.9	92	89	Medium	10.4	4.1
56	Super-Crost 213	55.4	1.1	16.9	89	82	Low	9.2	4.4
59	Crow 407	55.3	.6	18.8	93	85	M-low	8.6	4.8
60	Munson M-X	54.6	1.0	18.9	87	82	Low	9.5	4.4
61	Illinois 1508 (Station)	54.3	1.5	19.2	91	87	M-low	8.3	3.7
62	Producers 315	54.2	4.9	18.1	84	83	Low	8.6	4.8
62	Super-Crost F-138	54.2	2.3	18.8	91	73	M-low	10.1	3.8
64	Pioneer 349	54.0	1.2	17.5	92	81	Low	8.8	4.3
65	Munson M-3	53.9	1.2	17.8	91	81	Medium	9.2	4.5
66	Pride D-66	52.9	.7	18.9	94	76	Medium	10.4	3.9
67	Moews 14	52.8	1.5	18.3	91	83	M-low	9.4	4.1
68	Crow 360	52.5	.5	18.8	86	85	M-high	8.6	4.0
68	P.A.G. 282	52.5	1.1	18.3	94	72	M-low	9.3	4.4
70	Stiegelmeier S-360	52.1	1.0	19.1	87	92	M-high	8.1	4.3
71	Ferris F-11	51.3	.7	18.4	91	72	M-low	10.2	4.5
72	Appl A-136	46.3	1.1	18.7	92	75	M-high	9.7	3.8
73	Producers 305	46.0	.8	17.9	93	71	Low	9.8	4.3
74	Pfister 187 Hybrid LF 123	43.6	.6	18.4	89	74	Medium	9.5	3.7
75	Doubet D-1E	42.5	1.3	17.3	93	73	M-low	9.6	4.0
	Average of all entries	58.5	1.5	18.1	91	82		9.1	4.3

[a] Average of Illinois 101 (Producers) 1947; Illinois 101 (Station) 1948 and 1949.

Table 11. — WEST NORTH-CENTRAL ILLINOIS: Galesburg

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	SUMMARY 1947-1949: Less than 4.8 bushels difference between total yields of any two entries is not significant.								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
1	Pioneer 313B	103.3	4.8	23.8	60	..	M-high		...
2	Schwenk S-24	102.7	2.0	22.2	71	..	High		...
3	Ainsworth X-21	96.9	2.7	22.3	79	..	M-high		...
4	Pioneer 336	95.8	2.1	21.0	71	..	High		...
5[a]	U. S. 13	93.4	2.4	23.1	72	..	High		...
6	P.A.G. 170	92.8	.8	21.1	76	..	M-high		...
7	Lowe 514	92.5	1.8	20.9	67	..	M-high		...
8	Producers 940	92.2	3.5	21.0	78	..	High		...
9	National 125-1	92.1	2.9	21.2	72	..	Medium		...
10	Morton M-12	91.6	3.5	21.1	74	..	M-high		...
11	Sieben S-440	91.1	1.3	20.0	69	..	Medium		...
12	P.A.G. 392	90.7	1.8	20.8	75	..	Medium		...
13	Hulting 380	89.9	1.1	21.8	63	..	Medium		...
14	Hulting 101	89.8	2.3	21.1	65	..	Medium		...
15	Funk G-37	88.0	1.9	20.5	73	..	M-high		...
16	Lowe 520	86.2	2.1	21.4	75	..	M-high		...
17	Super-Crost F-169	86.0	2.1	21.7	68	..	M-high		...
	Average of all entries	92.6	2.3	21.4	71	..			...
	1949 RESULTS: Less than 10.6 bushels difference between total yields of any two entries is not significant.								
1	Crow "Deep Root"	105.6	.9	18.9	92	90	High	10.0	5.5
2	Huey H-23	103.0	3.9	18.6	76	90	High	9.9	4.7
3	Illinois 1570 (Station)	101.9	1.7	18.8	82	91	High	10.9	4.6
4	Lowe 520	101.0	3.4	18.6	70	86	M-high	9.2	4.8
4	P.A.G. 170	101.0	1.3	18.4	82	84	M-high	9.3	4.3
6	Schwenk S-24	100.6	2.4	19.4	78	86	High	9.3	4.6
7	Crow 660	98.9	3.0	19.2	85	82	Medium	9.7	5.3
8	Schwenk S-34	98.7	5.3	19.1	77	85	High	9.5	4.5
9	Illinois 972A-1 (Station)	98.6	4.6	19.8	80	86	High	9.6	4.2
10	Munson M-13	98.5	1.7	19.2	76	86	M-high	9.8	4.7
11	Top Yield M-546	97.1	2.3	18.5	74	78	High	9.9	4.9
12	Bo-Jac 68	96.2	2.2	17.3	76	85	Medium	8.9	4.1
13	Bear OK-35	96.1	1.2	18.3	77	78	Medium	10.6	5.2
14	Pioneer 313B	95.6	7.3	20.2	58	87	M-high	9.4	4.7
14	Producers E102B	95.6	2.7	19.2	83	87	M-low	9.8	5.0
16	National 115A	94.6	3.7	18.4	86	84	High	10.9	5.1
16	P.A.G. 347	94.6	1.8	18.1	77	87	Medium	10.5	4.8
18	Ainsworth X-21	94.4	2.9	19.7	80	85	High	9.7	4.9
19	Illinois 273-1 (Tiemann)	93.8	6.8	19.2	66	84	Medium	10.5	4.8
19	Munson M-H	93.8	2.0	18.8	80	82	M-high	10.4	5.2
21	U. S. 13 (Station)	93.2	1.8	19.7	73	88	High	9.6	4.6
22	Ainsworth X-13-3	92.9	3.3	19.1	61	94	Medium	10.5	4.7
23	Morton M-12	92.5	6.3	18.1	82	80	M-high	10.3	4.6
24	Kelly K-374	92.0	3.5	19.1	79	87	Medium	10.1	4.8
25	Illinois 21 (Station)	91.8	4.3	20.1	84	81	High	9.3	4.5
25	U. S. 13 (Lepper)	91.8	2.3	19.2	76	85	High	9.6	4.3
27	Illinois 1337 (Station)	91.4	3.2	20.5	74	83	High	10.1	4.6
27	Pioneer 304	91.4	2.5	20.7	80	85	M-high	8.7	4.8
29	P.A.G. 270	91.3	2.2	18.3	82	86	Medium	10.1	4.5
29	Sieben S-440E	91.3	3.1	16.3	72	83	M-low	9.5	4.8
31	Lowe 562	91.0	4.4	17.8	73	86	Medium	10.1	4.7
32	Funk G-95	90.7	5.6	19.5	79	81	M-high	9.8	4.9
33	Stiegelmeier S-370	90.6	1.2	18.9	72	78	Medium	9.3	4.1
34	Hulting 101	90.2	4.6	18.8	71	81	Medium	9.4	4.7
35	Iowealth AQ	89.6	3.1	16.7	79	84	Medium	9.6	4.4
35	Lowe 514	89.6	1.0	18.7	72	84	M-high	10.0	4.6
37	National 125-1	89.1	4.4	18.9	80	84	Medium	11.0	5.1
38	Ainsworth X-201	88.9	3.1	19.2	66	81	M-high	10.6	4.8
39	Ferris F-12	88.8	4.5	19.8	77	85	M-high	10.4	4.6
40	Cargill 339	88.6	.9	19.0	69	80	M-high	10.4	4.8

(Table is concluded on next page)

Table 11. — WEST NORTH-CENTRAL ILLINOIS — concluded

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	1949 RESULTS — concluded								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
41	Morton M-30	88.3	2.5	19.4	81	82	Medium	8.6	4.5
42	United U-47	88.2	5.9	16.6	76	81	Medium	9.9	4.8
43	Pfister 187 Hybrid LF 456	88.1	1.5	18.8	83	76	Medium	9.5	4.4
43	Producers 900	88.1	1.3	19.2	73	83	Medium	9.6	5.1
43	Stewart S-11	88.1	3.0	16.6	83	69	High	10.9	4.9
46	Pioneer 339	87.6	1.9	19.5	85	76	Medium	10.6	4.6
47	Appl A-136	87.4	1.8	20.2	67	75	M-high	9.3	4.4
47	Doubet D-11	87.4	3.6	18.5	78	85	Medium	10.3	4.6
47	Illinois 1515 (Station)	87.4	2.1	19.8	79	82	High	10.1	4.8
50	Bear OK-50	87.3	3.1	18.1	70	80	M-high	10.0	4.3
51	Funk G-93	86.8	1.0	18.4	75	82	Medium	10.6	4.7
52	Kelly K-42	86.7	1.3	18.1	71	70	Medium	11.0	5.3
52	Moews 520	86.7	1.9	18.5	73	85	M-high	9.8	4.9
54	Producers 940	86.5	2.4	19.9	81	83	High	9.8	4.6
55	Ferris F-11	86.2	6.0	17.9	79	83	Low	9.8	5.0
56	Holmes Utility 19A	85.2	3.7	18.8	78	85	M-low	10.1	4.7
57	Funk G-37	85.0	.7	17.4	85	80	M-high	9.5	4.8
58	Baird 380	84.5	2.1	18.9	73	77	Medium	9.7	4.5
59	Crow 633	84.3	3.4	20.7	72	80	M-high	10.9	4.9
59	Doubet D-3W	84.3	4.0	18.6	74	84	Medium	9.9	4.9
61	Sieben S-440	84.1	1.1	18.0	69	83	M-low	9.6	4.6
62	Iowealth 16	83.9	1.9	18.5	70	79	M-low	10.4	4.2
63	Sieben S-340	83.4	2.2	19.3	72	75	Medium	10.4	4.6
64	Huey H-42	83.2	1.2	19.2	81	85	High	10.5	4.8
65	Kelly K-77	83.1	3.2	18.8	81	81	M-high	10.1	4.8
66	Stiegelmeier S-340	82.7	1.1	19.1	79	73	M-high	10.1	4.6
67	Pfister 187 Hybrid LF 789	81.8	2.1	18.3	75	76	Medium	10.4	4.7
68	Null N-32	81.0	1.9	18.5	84	82	Medium	10.1	4.3
68	P.A.G. 392	81.0	2.9	19.0	78	90	Medium	9.9	4.6
70	Hulting 380	80.8	.3	20.1	72	80	Medium	9.8	4.5
71	Super-Crost F-169	80.7	.7	18.8	68	75	M-high	10.3	5.0
72	Pioneer 336	80.5	.5	19.2	78	79	High	11.3	4.9
73	Holmes Utility 29	80.3	4.1	19.0	85	83	M-high	10.1	4.6
74	Producers E114B	79.7	6.3	20.8	75	86	Low	10.4	5.1
75	Moews 550	77.4	.7	18.7	79	80	M-high	9.9	4.7
76	Keystone 41	74.7	4.1	18.5	78	82	Medium	10.9	4.5
77	Holmes Utility 39H	74.4	3.0	20.2	80	77	High	9.9	4.7
78	Super-Crost FD-7	74.3	1.1	18.4	69	64	Medium	10.8	5.1
79	Moews 14	74.1	.8	18.7	72	72	M-low	9.2	4.6
80	Pringle P-100	72.1	.7	18.8	69	82	M-low	10.8	5.2
81	Pfister 187 Hybrid LF 123	70.2	3.7	19.1	79	78	Medium	9.8	4.6
	Average of all entries	88.6	2.8	18.9	76	82		10.0	4.7

[a] Average of U. S. 13 (Morton, Lepper, Morgan) 1947; U. S. 13 (Lepper and Morton) 1948; U. S. 13 (Lepper) 1949.

Table 12. — EAST NORTH-CENTRAL ILLINOIS: Sheldon

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	SUMMARY 1947-1949: Less than 4.8 bushels difference between total yields of any two entries is not significant.								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
1	Keystone 38	96.2	2.0	22.7	86	..	Medium		...
2	Producers 940	94.3	1.5	22.2	84	..	M-high		...
3[a]	Illinois 21	94.0	3.0	23.0	80	..	M-high		...
4	P.A.G. 164	93.9	2.7	22.9	85	..	Medium		...
5[b]	U.S. 13	93.0	2.2	23.7	83	..	M-high		...
6	Bear OK-88T	92.9	1.1	25.6	80	..	Medium		...
7	P.A.G. 392	90.4	1.5	22.4	83	..	Medium		...
8	Morton M-12	88.5	3.9	22.3	83	..	M-high		...
9	Lowe 523	88.3	2.8	23.4	79	..	Medium		...
10	Farmcraft FC-69	88.1	1.9	24.1	78	..	Medium		...
11	Crow 608	87.8	1.1	23.9	78	..	Medium		...
12	Frey 645	87.1	2.3	23.7	82	..	Medium		...
13	Lowe 580	85.6	2.0	24.5	81	..	Medium		...
14	Lowe 514	84.8	2.2	23.7	83	..	Medium		...
15	Crow 633	84.2	1.9	22.7	81	..	Medium		...
16	Kelly K-77	83.2	2.0	22.8	81	..	Medium		...
17	Moews 520	79.8	1.2	23.6	85	..	Medium		...
18	Funk G-211	78.9	2.0	22.9	80	..	Medium		...
19	Lowe 520	78.2	2.8	25.7	81	..	M-high		...
	Average of all entries	87.8	2.1	23.5	82	..			...
	1949 RESULTS: Less than 9.0 bushels difference between total yields of any two entries is not significant.								
1	Crow "Deep root"	98.3	1.9	20.3	75	89	Medium	9.7	5.1
2	Schwenk S-34	98.2	2.6	20.7	72	87	High	10.3	4.4
3	Corn Belt 60A	97.2	3.1	20.8	63	79	M-high	9.9	4.6
4	Illinois 1246 (Holder)	96.1	5.1	19.0	72	88	Medium	10.5	4.9
5	Illinois 21 (Station)	95.0	.8	20.4	71	90	M-high	10.0	4.5
6	Stiegelmeier S-370	94.3	2.7	18.8	66	84	Medium	10.1	4.3
7	Lowe 520	94.1	5.0	20.0	64	90	M-high	10.4	4.5
8	Ainsworth X-21	92.4	4.3	20.6	74	91	High	10.2	4.8
8	Frey 645	92.4	3.0	18.9	64	87	Medium	10.6	4.7
8	National 115A	92.4	1.7	20.5	74	87	M-high	11.9	4.6
11	Illinois 1570 (Station)	92.2	2.5	23.0	76	85	High	10.6	4.4
12	Doubet D-11	92.1	7.3	19.9	74	92	Medium	11.3	4.9
13	Illinois 1515 (Station)	91.7	1.8	20.6	77	82	M-high	10.7	4.6
14	P.A.G. 392	90.6	1.2	19.6	75	88	Medium	10.1	4.5
15	Ainsworth X-13-3	90.2	4.3	20.9	72	87	M-high	10.6	4.3
16	Kelly K-374	89.0	2.4	19.6	68	91	Medium	10.3	4.9
17	Pioneer 304	88.9	2.4	22.8	67	87	M-high	10.0	4.9
18	Bear OK-31	88.6	2.0	20.0	74	90	Medium	11.1	4.9
18	Funk G-93	88.6	1.2	20.1	72	88	M-high	10.9	4.8
20	P.A.G. 164	88.2	2.2	20.7	73	84	Medium	9.8	4.5
20	U.S. 13 (Station)	88.2	2.7	21.1	71	83	High	10.1	4.7
22	Illinois 1508 (Station)	88.0	3.8	19.1	69	85	Medium	9.8	4.4
23	Illinois 1091 (Mountjoy)	86.5	1.3	19.7	67	79	Medium	9.7	4.4
24	Pioneer 313B	86.2	2.4	21.7	69	88	Medium	10.3	4.5
25	Null N-49	85.9	2.0	19.7	69	85	M-high	10.3	4.4
26	Bear OK-50	85.7	4.3	20.8	69	85	Medium	10.2	4.1
27	Keystone-38	85.1	2.2	20.8	74	85	Medium	10.6	4.3
28	Frey 692	84.9	1.5	20.1	70	78	Medium	9.6	4.7
29	Crow 608	84.6	2.5	20.4	54	72	Low	10.2	4.6
30	Frey 644	84.4	4.3	20.3	70	86	Medium	10.1	4.8
30	Illinois 1248 (Seeber)	84.4	4.8	19.9	68	83	Medium	10.5	4.7
32	Funk G-95	84.3	4.9	20.7	73	88	Medium	10.3	4.7
33	Stiegelmeier S-340	84.2	2.2	20.8	70	78	Medium	9.9	4.4
34	Kelly K-77	84.1	2.4	20.4	67	83	Medium	10.3	4.4
35	Bear OK-88T	83.8	1.5	20.7	63	83	Medium	11.0	4.8
35	Pfister 187 Hybrid LF 789	83.8	1.3	19.3	70	84	Medium	9.9	4.4
37	Morton M-30	83.6	2.1	20.2	70	86	Medium	9.6	4.6
38	Iowealth AQ	83.5	1.8	19.0	69	92	M-low	10.3	4.5
39	Lowe 514	83.1	5.0	19.1	68	78	Medium	10.3	4.8
40	Morton M-12	82.8	5.6	20.5	72	85	M-high	10.3	4.6
41	Ainsworth X-201	82.7	1.7	21.1	65	82	High	10.9	4.6

(Table is concluded on next page)

Table 12. — EAST NORTH-CENTRAL ILLINOIS: Sheldon — concluded

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	1949 RESULTS — concluded								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
41	Appl A-1766	82.7	1.4	21.6	71	80	High	10.3	4.7
41	Bear Tapicorn 4	82.7	1.1	20.1	70	84	Medium	9.8	4.8
41	Producers 940	82.7	1.0	21.0	74	82	High	10.3	5.0
45	Pfister 187 Hybrid LF 456	82.4	1.5	19.8	65	82	Medium	9.8	4.1
46	Lowe 580	82.2	1.4	20.6	67	84	Medium	10.4	4.3
47	Illinois 21 (Pfeifer)	82.1	3.2	18.8	69	82	Medium	10.1	4.5
48	DeKalb 800A	82.0	1.2	20.8	72	80	M-high	10.6	4.7
49	Sibley 777	81.8	3.1	20.6	69	81	Medium	9.7	4.1
49	P.A.G. 173	81.8	2.5	20.1	74	75	Medium	10.5	4.6
51	Super-Crost S-12	81.1	1.3	18.5	70	82	M-low	10.1	4.5
52	DeKalb 627	79.9	1.5	20.5	59	89	Low	10.4	4.4
52	P.A.G. 175	79.9	4.0	21.0	72	86	M-high	10.7	4.3
52	Sieben S-440	79.9	2.1	18.3	67	83	M-low	10.0	4.2
55	Pioneer 332	79.7	5.3	23.1	67	87	M-high	10.1	4.1
56	Producers 900	79.6	7.5	19.4	73	82	M-low	10.8	4.8
57	Illinois 1337 (Station)	79.5	1.2	20.4	65	82	Medium	10.5	4.5
58	Lowe 523	79.2	7.0	21.1	66	88	Medium	10.2	4.6
59	Frey 425	78.6	3.8	21.7	64	84	Low	9.9	4.6
60	Doubet D-3W	77.4	4.1	20.7	72	81	Low	9.7	4.6
61	Farmcraft FC-69	77.1	4.3	21.7	59	72	Medium	10.2	4.5
62	Super-Crost FD-6	76.6	1.3	18.8	69	79	Medium	10.3	4.4
63	Hulting 101	76.2	1.3	19.2	68	82	Medium	10.6	4.6
64	Moews 520	76.1	2.1	20.1	76	80	Medium	10.5	4.6
65	Crow 633	75.8	4.6	20.0	69	73	Medium	10.2	4.7
66	Crow 660	75.7	2.1	19.6	69	76	Medium	10.2	4.4
66	Farmcraft PC-63	75.7	2.0	20.3	60	80	M-low	10.2	4.2
68	Sieben S-440E	75.2	4.2	19.4	65	88	Low	9.9	4.8
69	Holmes Utility 39H	75.1	2.5	22.5	70	77	M-high	9.3	4.2
69	Super-Crost 746	75.1	3.0	21.7	66	81	Medium	10.7	4.3
71	Pioneer 300	74.7	2.6	21.5	61	81	M-high	10.4	4.4
72	Pfister 187 Hybrid LF 123	74.4	2.6	21.7	72	85	Medium	10.8	4.2
73	Illinois 972 (Appl)	73.4	1.1	20.4	62	66	Medium	9.7	4.1
74	Pike 520	72.6	1.0	23.2	67	76	Medium	10.3	4.2
75	Illinois 273-1 (Tiemann)	72.4	4.4	19.4	68	83	Medium	11.0	4.9
76	Hulting 380	71.9	4.1	20.0	70	83	Medium	9.3	4.4
77	Keystone 41	71.5	3.5	20.5	70	84	Low	10.7	4.7
78	Producers 730	71.3	3.5	20.2	69	68	M-high	10.4	4.4
79	Moews 14	69.6	3.6	18.4	63	84	Low	9.9	4.3
80	Moews 18	69.0	1.0	19.9	73	74	Medium	9.8	4.5
81	Funk G-211	63.3	4.2	19.9	59	85	Low	10.1	4.4
	Average of all entries	82.8	2.9	20.4	69	83		10.3	4.5

[a] Average of Illinois 21 (Mountjoy) 1947; Illinois 21 (Holder, Mountjoy, Station) 1948; Illinois 21 (Station) 1949. [b] Average of U.S. 13 (Morton, Kelly, Pfeifer) 1947; U.S. 13 (Morton, Appl, Sibley, Station) 1948; U.S. 13 (Station) 1949.

Table 13. — SOUTH-CENTRAL ILLINOIS: Sullivan

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
SUMMARY 1947-1949: Less than 3.9 bushels difference between total yields of any two entries is not significant.									
1	Producers 900	91.5	2.7	18.8	83	..	Medium		...
2	P.A.G. 173	90.6	4.5	19.2	78	..	M-high		...
3	P.A.G. 392	90.4	2.2	18.6	90	..	Medium		...
3[a]	U.S. 13	90.4	2.1	19.0	83	..	M-high		...
5	Ainsworth X-13-3	90.2	2.9	19.5	86	..	Medium		...
6[b]	Illinois 201	88.9	2.1	18.7	82	..	Medium		...
7[c]	Illinois 21	88.7	2.7	19.2	86	..	Medium		...
8	Keystone 45	88.2	2.6	21.4	79	..	High		...
9	Lowe 523	87.0	1.0	18.9	85	..	Medium		...
10	DeKalb 875	86.1	2.2	20.8	84	..	Medium		...
11	Canterbury 404	86.0	1.8	19.5	85	..	Medium		...
12	Whisnand 804	85.4	.2	18.6	83	..	Medium		...
13	P.A.G. 170	85.2	3.1	20.0	84	..	M-high		...
14	Kelly K-88	84.9	1.5	18.5	84	..	Medium		...
15	National 125-1	84.8	3.3	18.4	88	..	Medium		...
16	Embro 36	84.2	3.6	19.1	85	..	Medium		...
17	Ainsworth X-14A	83.6	2.2	22.2	80	..	M-high		...
18	Crow 608	82.6	1.8	18.6	81	..	Medium		...
19	Crow 805	82.5	1.3	19.4	81	..	Medium		...
	Average of all entries	86.9	2.3	19.4	84	..			...
1949 RESULTS: Less than 6.5 bushels difference between total yields of any two entries is not significant.									
1	Illinois 2216(W) (Station)	99.8	2.5	20.5	60	94	High	9.1	4.0
2	Doubet D-41	99.3	2.8	18.9	82	94	M-high	8.5	4.8
3	Whisnand 804D	96.4	4.1	17.1	63	97	Medium	8.9	4.7
4	U.S. 13 (Stone)	93.6	2.7	18.8	73	95	M-high	8.7	4.4
5	U.S. 13 (Wilson)	93.4	3.8	18.4	57	92	M-high	8.8	4.5
6	Funk G-98	93.1	1.2	19.8	59	97	M-high	9.0	4.6
7	U.S. 13 (Station)	93.0	4.7	16.8	76	98	M-high	8.6	4.1
8	Funk G-79	92.5	2.3	19.0	73	93	M-high	9.1	4.6
8	Illinois 1570 (Station)	92.5	2.9	19.1	71	96	M-high	9.2	4.6
10	P.A.G. 392	92.1	4.8	17.7	82	96	Medium	8.9	4.5
11	Bear OK-72	91.3	.9	18.2	67	90	Medium	9.7	4.8
12	P.A.G. 170	91.1	4.8	18.4	78	93	M-high	8.5	4.1
13	Castle Ohio C-92	90.8	3.7	18.3	71	94	Medium	9.1	4.8
14	Illinois 21 (Stone)	90.7	3.7	18.2	77	93	Medium	9.1	4.7
15	Stiegelmeier S-370	90.6	3.4	17.9	72	91	M-high	9.5	4.1
16	Illinois 201 (Mountjoy)	90.2	3.7	17.8	61	94	Medium	8.9	4.7
17	Funk G-512(W)	90.1	.6	21.4	57	94	High	9.1	4.0
18	Null N-77	90.0	1.0	17.5	68	89	M-high	9.1	4.4
19	Crow "Deep Root"	89.5	2.9	17.9	89	93	Medium	8.9	5.0
20	Bear OK-66	89.4	4.3	18.6	73	94	Medium	8.9	4.6
21	Illinois 21 (Powers)	89.2	5.6	19.0	72	93	Medium	9.4	4.7
21	Keystone 45	89.2	5.6	19.9	67	95	High	9.4	5.3
23	Illinois 1337 (Pfeifer)	89.1	4.0	17.8	76	93	Medium	9.6	4.6
24	P.A.G. 173	88.4	4.7	18.4	68	95	Medium	9.1	4.3
25	Pioneer 313A	88.2	4.5	18.8	74	96	Medium	8.8	5.0
26	Crow 805	88.1	2.0	18.9	68	90	Medium	9.5	4.7
27	Bear Tapicorn 4	87.6	2.7	16.7	71	92	M-low	9.2	4.5
28	Lowe 640	87.4	2.6	17.0	64	93	M-low	9.6	4.6
28	P.A.G. 164	87.4	3.5	19.0	86	95	Medium	8.5	4.7
30	Canterbury 420	87.1	2.8	18.5	74	93	Medium	8.9	4.8
30	Kelly K-88	87.1	3.7	17.1	75	89	M-high	8.9	4.8
30	Pioneer 332	87.1	1.1	19.6	75	89	M-high	8.8	4.4
33	Ainsworth X-13-3	86.8	5.1	18.8	79	94	Medium	9.1	4.3
33	Illinois 972A-1 (Stone)	86.8	3.1	17.5	59	88	Medium	9.1	4.5
35	Ainsworth X-14A	86.6	2.7	19.5	63	94	High	9.8	5.1
35	Pioneer 313B	86.6	1.4	18.8	68	94	M-low	8.9	4.7
37	Morton M-12	86.3	6.8	17.9	74	92	Medium	9.1	4.5
38	Illinois 1337 (Station)	86.1	3.4	17.2	70	94	Low	8.7	4.5
38	Appl A-130	86.1	1.5	17.3	80	90	Medium	9.6	4.6
40	Ainsworth X-21	85.9	2.6	18.7	74	92	Medium	9.1	4.6
41	Embro 36	85.6	2.9	19.5	78	95	Medium	9.4	4.7

(Table is concluded on next page)

Table 13. — SOUTH-CENTRAL ILLINOIS: Sullivan — concluded

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	1949 RESULTS — concluded								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
42	Pfister 187 Hybrid LF 456	85.3	1.1	17.0	71	87	M-high	8.8	4.0
43	Whisnand 804	85.0	.3	18.0	71	91	Medium	9.4	4.6
44	DeKalb 875	84.7	1.9	18.9	80	88	Medium	10.1	4.3
44	Moews 830	84.7	2.0	18.0	50	90	M-high	9.4	4.4
44	U.S. 13 (Pfeifer)	84.7	3.0	18.3	75	93	M-high	8.9	4.2
47	Crow 660	84.6	.4	18.7	72	95	Medium	8.9	4.8
47	Morton M-30	84.6	4.4	18.2	76	93	M-low	8.7	4.0
49	Canterbury 404	84.5	1.7	18.6	75	91	Medium	9.4	4.7
49	National 125-1	84.5	3.4	16.7	83	92	Medium	8.9	4.5
51	Illinois 1515 (Station)	84.3	3.2	20.1	81	98	M-high	9.1	4.7
52	National 125	84.1	1.0	19.4	81	95	Medium	8.4	4.6
53	Crow 608	83.9	3.1	17.4	71	90	Medium	8.9	4.6
53	Producers 940	83.9	.7	18.3	84	96	Medium	8.9	4.4
55	Illinois 201 (Station)	83.6	.8	17.9	83	91	Low	9.1	4.2
56	Illinois 206 (Pfeifer)	83.2	2.0	19.3	72	92	M-high	9.4	4.5
56	Producers 1050	83.2	3.0	19.4	54	93	M-high	9.9	4.4
58	DeKalb 847	82.7	3.5	17.8	85	97	Medium	9.9	4.6
58	Producers 900	82.7	3.8	17.4	69	93	Medium	9.1	4.7
60	Lowe 523	82.4	1.1	18.8	71	88	Medium	9.6	4.5
61	Iowealth 25	82.2	2.3	17.0	60	88	M-high	9.3	4.6
62	Funk G-99	82.0	2.9	19.6	65	86	M-high	9.8	4.5
62	Kelly K-77	82.0	1.2	18.3	77	90	M-high	8.6	4.7
62	Super-Crost 708(W)	82.0	2.7	20.9	54	83	High	10.1	3.8
65	Illinois 972-1 (Pfeifer)	81.6	2.1	18.9	70	95	M-high	8.4	4.4
66	Producers 730	81.3	1.9	19.0	62	78	High	9.2	4.4
67	Holmes Utility 39C	80.4	4.3	20.1	84	87	M-high	8.9	4.4
68	DeKalb 82	80.1	2.1	16.5	81	88	Low	9.5	4.7
69	Doubet D-11	79.1	1.3	17.1	84	91	Low	9.1	4.8
69	Pioneer 300	79.1	2.7	19.3	78	95	M-high	9.0	4.3
71	Bo-Jac 28	78.8	3.2	18.2	86	88	Medium	9.4	4.9
72	DeKalb 825	77.2	2.4	18.3	72	92	M-low	9.4	4.2
73	Iowealth 25A	77.0	.4	18.5	87	90	Medium	9.8	4.7
74	Kelly K-44	76.4	3.6	17.9	83	93	Low	9.4	4.7
75	Pfister 187 Hybrid LF 789	74.8	4.3	19.1	78	85	Medium	9.4	4.5
76	Moews 18	74.6	4.1	17.9	75	93	M-low	9.2	4.2
77	Ponder P-814	73.9	1.5	18.7	58	79	High	9.9	5.1
78	Keystone 41	73.8	4.9	18.0	79	92	Low	10.1	4.6
79	Pfister 187 Hybrid LF 123	73.0	3.1	16.9	73	87	M-low	9.8	4.1
80	Illinois 200 (Butzow)	64.6	4.2	19.4	74	94	Low	9.9	4.9
81	Lowe 514	57.3	4.3	16.7	73	92	Low	9.5	4.6
	Average of all entries	85.1	2.9	18.4	73	92		9.2	4.5

[a] Average of U.S. 13 (Canterbury, Stone, Mountjoy, Daily, Morton, Pfeifer) 1947; U.S. 13 (Stone, Morton, Daily, Appl, Kelly, Mountjoy, Pfeifer, Canterbury) 1948; U.S. 13 (Pfeifer, Stone, Wilson, Station) 1949. [b] Average of Illinois 201 (Burrus) 1947; Illinois 201 (Mountjoy, Station) 1948; Illinois 201 (Mountjoy, Station) 1949. [c] Average of Illinois 21 (Stone, Daily) 1947; Illinois 21 (Powers, Daily, Station) 1948; Illinois 21 (Powers, Stone) 1949.

Table 14. — SOUTHERN ILLINOIS: Alhambra

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	SUMMARY 1946, 1947,[a] 1949: Less than 6.5 bushels difference between total yields of any two entries is not significant.								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
1	Whisnand 917(W)	63.4	1.0	24.9	73	..	M-high		...
2	Doubet D-41	61.9	1.6	23.9	67	..	M-high		...
3	Whisnand 905(W)	58.7	1.1	25.7	64	..	M-high		...
4[b]	Illinois 784	57.4	1.4	25.8	59	..	M-high		...
5	Funk G-80	57.1	4.1	25.9	74	..	M-high		...
6	Ainsworth X-14A	55.7	1.4	25.0	71	..	Medium		...
7[c]	Illinois 200	55.6	.9	22.4	64	..	Medium		...
8	Pioneer 505(W)	54.7	.9	26.5	66	..	M-high		...
9	Keystone 38	54.6	1.0	22.6	68	..	Medium		...
10[d]	U.S. 13	54.1	1.7	23.0	71	..	Medium		...
11	Keystone 45	53.8	1.0	25.0	72	..	Medium		...
12	Pioneer 332	52.7	1.2	23.4	64	..	Medium		...
13	Super-Crost 840	52.0	1.3	22.8	72	..	Medium		...
14	Pioneer 313B	51.9	1.2	23.2	69	..	Medium		...
15	Crow 607	51.1	2.3	23.8	65	..	Medium		...
16	Pioneer 300	50.6	1.1	21.4	66	..	Medium		...
17	Lowe 840	49.6	3.3	26.0	64	..	Medium		...
18	National 125	49.4	4.9	22.3	59	..	Medium		...
19	Embro 49	48.3	1.6	24.3	62	..	Medium		...
20	National 129	47.8	1.0	21.8	68	..	M-low		...
	Average of all entries	54.0	1.7	24.0	67	..			...
	1949 RESULTS: Less than 7.4 bushels difference between total yields of any two entries is not significant.								
1	Illinois 2214(W) (Station)	81.5	.7	17.5	72	93	High	8.7	4.4
2	Illinois 784 (Station)	77.2	1.3	19.8	46	91	High	9.4	4.2
3	Illinois 1459 (Station)	75.9	1.0	19.0	54	90	High	10.2	5.5
4	Illinois 1521B (Station)	73.2	1.7	20.2	59	90	High	10.3	4.5
5	Pioneer 302	73.0	2.0	17.4	76	88	Medium	9.9	4.8
6	Whisnand 917(W)	72.3	1.1	17.1	82	85	High	9.2	3.7
7	Illinois 200 (Pfeifer)	69.6	1.0	17.4	62	88	M-high	9.7	4.7
8	Keystone 45	68.9	1.2	17.8	82	86	M-high	9.6	4.9
9	P.A.G. 620(W)	68.3	1.5	17.3	72	86	High	8.9	3.9
9	Pioneer 505(W)	68.3	1.6	17.8	69	85	High	9.4	4.0
11	Illinois 1540A (Station)	68.2	2.0	20.6	36	89	High	10.7	5.0
12	Funk G-80	67.9	.8	18.7	75	83	M-high	9.9	4.9
13	Illinois 200 (Station)	67.3	1.3	16.9	76	84	M-high	9.5	4.8
14	Producers E441	67.0	1.0	19.5	73	86	High	8.8	4.3
15	Funk G-512(W)	66.8	1.6	17.9	61	79	High	8.1	4.2
16	Keystone 106(W)	66.3	1.0	17.9	56	88	High	8.8	4.1
17	Doubet D-41	65.9	1.0	16.7	80	80	Medium	9.7	4.6
18	Ainsworth X-14A	65.7	.6	17.1	68	87	Medium	9.5	4.8
19	P.A.G. 631(W)	65.6	.7	18.8	45	84	High	8.7	4.6
20	Super-Crost 1010S	65.1	1.7	18.5	47	86	High	10.4	4.8
21	Funk G-98	64.6	2.1	17.3	80	87	M-high	9.3	4.3
22	Producers E445	64.6	1.5	18.7	56	79	M-high	10.1	4.1
23	Lowe 855(W)	64.5	1.9	18.8	81	88	M-high	8.9	4.3
24	P.A.G. 617(W)	64.4	1.0	17.3	62	78	High	9.4	4.1
25	Bear OK-76	63.9	.7	17.0	68	77	M-high	9.4	4.4
26	Keystone 111(W)	63.8	1.6	19.0	69	76	Medium	10.1	4.3
27	Illinois 784 (Haudrich)	63.5	1.4	19.3	53	88	High	8.9	4.4
28	Morton M-30	63.3	.7	15.2	91	92	Medium	9.6	4.0
28	Bear OK-77	63.3	1.0	15.8	68	86	M-low	9.4	4.8
30	Producers 1050	63.2	.9	17.9	57	82	Medium	9.2	4.3
31	Super-Crost 1005B	62.8	1.6	16.6	71	84	Medium	10.7	4.7
32	Producers E409	62.3	1.3	16.5	90	92	M-high	8.9	4.6
33	Appl A-1766	61.9	1.3	15.7	77	80	M-high	10.1	4.6
34	Lowe 820	61.8	1.7	18.4	61	85	Medium	9.9	4.5
35	Corn Belt 60A	61.6	1.7	17.4	57	84	M-low	9.6	4.2
36	Keystone 38	61.5	1.0	15.4	86	87	M-low	9.8	4.1
36	Super-Crost 708(W)	61.5	2.0	17.6	65	79	High	9.4	3.8
38	Embro 155(W)	61.4	1.4	18.4	70	81	High	9.2	3.8
39	U.S. 13 (Lepper)	61.3	1.6	17.3	78	85	Medium	9.8	4.3
40	Corn Belt 70A	60.6	1.1	14.8	87	81	Medium	9.8	4.3

(Table is concluded on next page)

Table 14. — SOUTHERN ILLINOIS: Alhambra — concluded

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	1949 RESULTS — concluded								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
41	Whisnand 834D	60.2	1.4	18.4	68	81	Medium	9.8	4.3
42	Embro 49	59.7	1.4	18.3	70	79	High	9.9	4.9
43	National 125	59.0	.7	16.0	76	89	Medium	10.3	4.3
44	U.S. 13 (Haudrich)	58.9	1.7	15.8	77	79	Medium	9.9	4.3
45	Canterbury 420	58.7	1.0	15.2	87	85	Medium	9.9	4.4
45	U.S. 13 (Morton)	58.7	1.5	16.6	78	87	M-low	9.4	3.8
47	Whisnand 905(W)	58.2	.7	17.5	72	76	High	8.8	4.1
48	Illinois 200 (Haudrich)	57.9	1.4	16.1	64	83	Medium	10.2	4.6
49	Ainsworth X-201	57.6	1.5	14.5	77	82	Medium	10.4	4.5
50	Lowe 840	57.3	3.2	18.4	70	80	Medium	10.9	4.2
51	Ainsworth X-13-3	57.2	1.6	16.3	77	84	Medium	9.7	4.4
52	Canterbury 412	56.9	2.6	16.9	71	83	Medium	9.0	4.0
53	National 129	56.6	1.5	16.6	82	82	M-low	10.4	4.6
54	U.S. 13 (Kelly)	56.2	1.8	17.5	66	83	M-high	9.1	4.2
55	DeKalb 875	56.0	1.1	17.3	62	84	Low	10.9	4.2
56	Illinois 1337 (Wilson)	55.8	2.1	16.9	80	87	Medium	9.4	4.2
57	Lowe 523	55.7	1.5	16.3	74	87	Low	8.8	4.1
58	Whisnand 804D	55.3	2.4	15.6	70	85	Medium	10.0	4.6
59	P.A.G. 173	54.8	1.4	15.6	66	79	Medium	9.7	4.3
60	P.A.G. 175	54.7	2.7	15.7	75	85	Medium	9.7	4.0
61	Ainsworth X-21	54.4	1.1	16.5	90	81	Medium	9.2	4.4
62	U.S. 13 (Appl)	54.2	1.8	16.6	88	83	Medium	9.8	4.1
63	Illinois 21 (Haudrich)	53.9	.9	15.3	81	90	M-low	9.7	4.3
64	P.A.G. 3202	53.7	1.6	16.2	72	70	M-low	9.8	4.8
65	Iowealth 29A	53.4	1.3	15.6	80	82	Medium	10.2	4.1
66	Crow 607	53.0	1.3	17.0	80	87	Low	9.1	4.5
67	Huey H-48	52.9	1.6	17.3	82	89	Medium	9.2	4.4
68	Pioneer 304	52.4	.8	16.7	70	83	Low	9.9	4.5
69	Canterbury 404	51.8	2.6	15.4	82	82	Medium	10.4	4.3
70	Carlson C-33	51.7	1.5	15.0	67	87	Low	9.8	4.1
71	Pioneer 300	51.6	1.8	15.0	89	85	Medium	10.4	3.6
72	Morton M-12	50.5	3.8	15.8	81	78	Low	10.6	4.0
73	Pioneer 313B	50.1	1.2	17.5	74	82	M-low	10.0	4.3
74	Super-Crost 840	48.7	1.4	16.7	65	80	Medium	9.5	3.8
75	Canterbury 456	48.0	1.0	15.3	72	80	M-low	9.6	4.1
76	Pioneer 332	47.0	1.5	17.5	83	76	Medium	10.0	3.8
77	Lowe 830	46.3	2.3	14.7	50	81	Low	10.1	4.0
78	Stiegelmeier S-13	46.0	.7	15.2	61	85	Low	9.1	4.0
79	Doubet D-11	43.6	1.1	16.1	82	86	Low	10.6	4.3
80	Iowealth 25	43.5	1.8	16.7	74	76	Medium	10.4	4.0
81	Pioneer 313A	43.4	.8	16.2	58	78	M-low	10.6	4.7
	Average of all entries	59.8	1.4	17.0	71	84		9.7	4.3

[a] 1948 data omitted because of crop failure. [b] Average of Illinois 784 (Pfeifer, Station) 1946; Illinois 784 (Haudrich) 1947; Illinois 784 (Haudrich, Station) 1949. [c] Average of Illinois 200 (Station) 1946; Illinois 200 (Haudrich, Burrus) 1947; Illinois 200 (Haudrich, Pfeifer, Station) 1949. [d] Average of U.S. 13 (Pfeifer, Station) 1946; U.S. 13 (Canterbury, Haudrich, Kelly, Morgan) 1947; U.S. 13 (Appl, Haudrich, Kelly, Lepper, Morgan) 1949.

Table 15. — EXTREME SOUTHERN ILLINOIS: Dixon Springs Bottomland and Upland

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	SUMMARY, Bottomland, 1947-1949: Less than 4.0 bushels difference between total yields of any two entries is not significant.								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
1	Illinois 1459 (Station)	68.1	1.8	27.0	87	..	M-high		...
2	Whisnand 917(W)	66.4	1.1	23.3	87	..	M-high		...
3	P.A.G. 620(W)	66.0	1.2	24.8	82	..	M-high		...
4	Doubet D-41	65.9	1.3	23.7	82	..	Medium		...
5	Illinois 2214(W) (Station)	65.0	1.2	23.7	84	..	Medium		...
6	P.A.G. 612(W)	64.0	1.0	26.1	86	..	M-high		...
7	Illinois 2216(W) (Station)	61.4	1.4	24.4	91	..	Medium		...
8	Super-Crost 708(W)	60.9	1.0	25.3	87	..	M-high		...
9	Ainsworth X-14A	60.8	2.2	22.6	81	..	Medium		...
10	Pioneer 505(W)	60.5	1.2	23.7	90	..	Medium		...
11	P.A.G. 173	59.4	1.4	19.0	85	..	Medium		...
12	Lowe 820	58.4	1.9	21.9	86	..	Medium		...
13[a]	Illinois 784	58.1	1.2	25.5	65	..	Medium		...
14	Keystone 38	56.4	1.0	22.2	84	..	M-low		...
15	Pioneer 304	55.9	1.2	23.8	83	..	Low		...
16	Pioneer 332	55.8	3.1	25.9	82	..	Medium		...
16	Embro 49	55.8	1.2	23.9	82	..	Medium		...
18	Lowe 840	55.3	.7	22.1	87	..	Medium		...
19	Pioneer 313B	53.7	2.0	22.0	74	..	M-low		...
20	Lowe 830	51.7	1.1	20.8	76	..	M-low		...
21	National 129	48.4	1.8	27.5	87	..	M-low		...
	Average of all entries	59.4	1.4	23.8	83	..			...
	1949 RESULTS: Less than 6.2 bushels difference between total yields of any two entries is not significant.								
1	Funk G-711A	92.5	3.0	20.7	67	90	High	10.1	4.5
2	Illinois 1459 (Station)	86.1	2.3	20.3	76	86	High	11.4	5.2
3	Doubet D-41	79.7	1.8	20.0	62	91	M-high	9.6	4.5
4	Illinois 2214(W) (Station)	79.4	1.6	18.8	73	87	M-high	8.6	4.3
5	Keystone 106(W)	79.0	1.3	19.6	66	90	High	10.8	4.9
6	P.A.G. 620(W)	78.7	1.5	18.9	78	85	High	10.2	4.9
7	Lowe 855(W)	77.2	1.4	19.7	74	88	Medium	10.8	4.5
7	P.A.G. 612(W)	77.2	1.5	17.1	81	89	High	10.6	3.8
9	Lowe 865(W)	76.8	1.5	19.4	73	90	Medium	10.2	4.5
10	Whisnand 917(W)	75.9	2.3	19.3	83	84	High	10.8	4.7
11	Corn Belt 70A	75.3	2.4	17.3	76	93	Medium	11.2	5.0
12	Funk G-705	74.9	1.5	17.3	69	90	High	9.3	4.4
13	Illinois 1540B (Station)	74.0	1.5	17.2	85	90	M-high	10.8	5.2
14	Funk G-779(W)	72.4	4.0	18.5	48	86	Medium	11.4	5.1
15	Bear OK-90	71.9	2.1	16.9	79	84	Medium	10.6	5.2
16	Producers E409	71.7	1.0	18.0	82	94	M-low	11.2	4.4
17	P.A.G. 617(W)	71.3	2.9	18.0	76	80	High	9.9	4.9
18	Keystone 111(W)	71.2	1.5	19.3	58	82	Medium	10.2	4.6
19	Lowe 820	70.9	2.2	18.7	81	86	High	9.8	5.5
19	Super-Crost 708(W)	70.9	1.4	18.7	78	81	High	10.8	4.6
19	U.S. 13 (Station)	70.9	1.0	18.2	72	90	Medium	9.8	4.2
22	Funk G-145	70.4	2.4	18.7	48	78	Medium	10.2	4.9
23	Illinois 1521B (Station)	70.0	1.5	20.7	89	90	M-high	10.6	4.5
23	Super-Crost 1005B	70.0	3.4	18.5	67	84	M-high	11.4	5.0
25	Whisnand 905(W)	69.9	1.0	19.2	74	77	M-high	10.1	4.4
26	Iowealth TX	69.2	1.4	21.0	54	84	High	9.6	4.7
27	Ainsworth X-14A	69.1	1.8	17.2	67	88	Medium	9.7	4.8
27	Super-Crost 1010S	69.1	1.7	20.6	71	85	Medium	10.1	5.1
29	Pioneer 505(W)	68.9	2.2	18.5	88	83	High	8.6	4.3
30	Illinois 2216(W) (Station)	68.7	1.8	18.5	85	77	M-high	10.9	4.7
31	Illinois 200 (Station)	68.4	3.3	17.6	63	89	M-low	10.4	4.5
32	Ainsworth X-21	68.3	2.3	17.2	74	90	M-low	10.9	4.9
33	Pioneer 302	68.1	1.7	18.7	73	85	Medium	11.0	4.5
34	Illinois 784 (Station)	67.8	1.4	18.8	35	84	High	12.2	4.8
35	Lowe 840	66.4	1.6	18.1	80	84	Medium	11.9	4.4
36	P.A.G. 173	65.9	1.9	14.7	71	82	Medium	11.6	4.6
37	Embro 49	65.8	2.4	18.7	68	89	M-high	10.2	5.1
38	Whisnand 834D	64.9	2.1	16.5	58	77	Medium	11.1	4.5
39	Keystone 38	63.5	1.8	18.3	67	90	M-low	10.5	4.6

(Table is concluded on next page)

Table 15. — EXTREME SOUTHERN ILLINOIS: Dixon Springs — concluded

Rank	Entry	Total acre yield	Damaged corn in shelled sample	Moisture in grain at harvest	Erect plants	Stand	Height of ear	Protein	Oil
	1949 RESULTS — concluded								
		bu.	*perct.*	*perct.*	*perct.*	*perct.*		*perct.*	*perct.*
40	Iowealth 29A	63.3	2.1	16.9	81	78	M-low	10.7	5.1
41	Producers 1050	63.1	2.9	19.0	68	88	Medium	10.7	4.8
42	Pfeifer A-243	62.6	2.3	19.0	43	87	High	10.2	4.7
43	Bear OK-40B	62.3	1.3	16.4	80	88	Low	11.4	4.5
43	Pioneer 332	62.3	2.5	20.0	63	80	Medium	10.6	4.5
43	Producers E445	62.3	1.1	19.7	73	85	M-low	10.5	5.3
46	Illinois 200 (Haudrich)	62.2	2.6	16.8	69	85	Medium	10.2	4.9
46	Lowe 640	62.2	2.4	16.3	56	90	Low	11.9	5.1
48	Producers E441	61.8	2.2	20.7	52	84	M-high	10.2	4.3
49	Ainsworth X-201	61.3	1.9	17.2	79	85	Medium	11.8	5.1
50	Iowealth 25	60.2	1.5	17.2	63	84	M-low	10.5	4.8
51	Pioneer 304	58.2	2.9	19.0	64	85	Low	9.9	4.8
52	P.A.G. 3202	58.1	1.9	17.6	67	64	Low	10.9	5.3
53	National 129	57.8	2.0	18.6	78	87	M-low	11.7	5.2
54	Stiegelmeier S-13	57.5	1.5	16.3	49	83	Low	9.4	4.5
55	Ainsworth X-13-3	57.4	1.4	18.7	80	83	Low	9.9	4.2
56	Lowe 830	57.2	1.5	16.2	50	86	M-low	10.6	4.6
57	Pioneer 313A	56.3	2.2	16.3	70	88	Low	10.2	4.3
58	Super-Crost FD-8	52.1	3.2	18.1	77	76	Low	10.8	4.9
59	Pioneer 313B	51.9	3.6	18.8	43	87	M-low	10.0	4.2
60	Funk G-783(W)	45.7	2.4	20.3	72	94	Low	10.1	4.4
	Average of all entries	67.6	2.0	18.4	69	85		10.5	4.7
	SUMMARY, Upland, 1947-1949: Less than 5.0 bushels difference between total yields of any two entries is not significant.								
1	Keystone 106(W)	55.4	1.2	20.4	86	..	Medium		...
2	Illinois 2216(W) (Station)	51.7	2.5	21.9	91	..	M-high		...
3	Lowe 855(W)	50.7	1.3	21.3	85	..	Medium		...
4	Illinois 2214(W) (Station)	49.6	1.1	22.6	81	..	M-high		...
5	Whisnand 905(W)	49.0	4.6	20.9	80	..	Medium		...
6	P.A.G. 612(W)	48.9	1.4	19.0	81	..	M-high		...
	Average of all entries	50.9	2.0	21.0	84	..			...
	1949 RESULTS: Less than 7.0 bushels difference between total yields of any two entries is not significant.								
1	Keystone 106(W)	77.9	1.6	16.9	88	86	Medium	10.3	4.4
2	Lowe 855(W)	68.0	2.6	21.7	86	88	Medium	9.2	4.6
3	Illinois 2214(W) (Station)	67.6	1.6	20.3	84	85	High	9.8	4.3
4	Funk G-711A	67.0	8.1	24.7	69	83	High	10.1	5.3
5	P.A.G. 612(W)	66.1	2.5	19.9	79	85	High	10.0	4.7
6	Illinois 2216(W) (Station)	62.3	4.3	21.6	92	78	High	9.8	4.2
7	Illinois 200 (Station)	60.5	1.3	19.5	76	86	M-low	10.6	4.9
8	Super-Crost 707(W)-1	60.2	1.5	20.8	71	81	High	9.9	3.6
9	Whisnand 905(W)	57.8	1.8	20.8	82	75	Medium	9.6	4.3
10	P.A.G. 173	56.1	3.0	17.7	90	90	M-low	10.4	4.7
11	Iowealth 29A	55.2	1.3	16.9	86	83	High	10.6	4.6
	Average of all entries	63.5	2.7	20.1	82	84		10.0	4.5

[a] Average of Illinois 784 (Station) 1947, Illinois 784 (Station) and (Haudrich) 1948, and Illinois 784 (Station) 1949.

SOIL ADAPTATION TEST

For the past four years six single-cross and three double-cross hybrids have been tested at Urbana for their adaptation to soils differing in fertility level. The four-year average and the 1949 yields are given in Table 16.

Soils. The two areas used for the tests are on the Agronomy south farm and differ in productivity as a result of long-continued use of different cropping systems. In the Southwest rotation a high state of productivity has been maintained by a systematic rotation of corn, oats, clover hay, and wheat with a red-clover catch crop. The South-Central area has been depleted of fertility by a rotation of corn, corn, corn, and soybeans. Both fields have received manure and phosphate. The predominating soil type on both fields is Sidell silt loam.

Season. The 1949 growing season at Urbana was very favorable. Planting and harvesting were carried out at the normal times. Rainfall was well distributed and temperatures were neither excessively high nor low. The corn-growing seasons of 1946, 1948, and 1949 were very favorable. The 1947 season was not favorable for maximum production.

1949 results. The average yield of all hybrids tested in 1949 was about the same as the average yield in 1946. It was lower than 1948 but much higher than 1947. The three single-cross hybrids Hy × L317, Hy × O7, and WF9 × Hy and the two double crosses Illinois 972-1 and Illinois 246 maintained their top rank in yields on both fertility levels, as in previous years. As in the past, early-maturing hybrids were low-yielding. This points to the desirability of growing full-season adapted hybrids.

Four-year averages. The rank of the hybrids in the four-year summary does not differ significantly from their rank in each of the four years. The single crosses Hy × L317 and Hy × O7 and the double crosses 972-1 and 246 stand at the top on both levels of fertility.

Table 16. — SOIL ADAPTATION TEST: Central Illinois, Urbana

Rank	Entry	Total acre yield	Erect plants	Rating for—	
				Erect plants	Total yield
	Highly productive soil[a] 1946-1949 (rotation: corn, oats, clover, wheat and red clover): Less than 3.0 bushels difference between total yields of any two entries is not significant.				
		bu.	*perct.*	*perct.*	*perct.*
1	Hy × L317	126.0	79	94	110
2	Hy × O7	122.4	86	102	107
3	Illinois 246	121.3	76	90	106
4	Illinois 972-1	119.8	85	101	105
5	WF9 × Hy	118.7	91	108	104
6	WF9 × 38-11	112.9	93	111	99
7	Illinois 751	106.8	80	95	94
8	WF9 × M-14	106.1	87	104	93
9	5120 × Hy	94.2	82	98	82
	Average	114.2	84	...	...
	Medium productive soil[b] 1946-1949 (rotation: corn, corn, corn, soybeans): Less than 2.6 bushels difference between total yields of any two entries is not significant.				
1	Hy × O7	71.9	92	106	115
2	Hy × L317	66.6	80	92	107
3	Illinois 972-1	66.2	86	99	106
4	Illinois 246	66.0	77	89	106
5	WF9 × Hy	65.5	94	108	105
6	WF9 × M-14	61.9	90	103	99
7	Illinois 751	60.1	87	100	96
8	WF9 × 38-11	56.3	88	101	90
9	5120 × Hy	47.0	85	98	75
	Average	62.4	87	...	...
	Highly productive soil[a] 1949 (rotation: corn, oats, clover, wheat and red clover): Less than 8.2 bushels difference between total yields of any two entries is not significant.				
1	Hy × L317	141.5	77	95	117
2	Illinois 246	135.0	75	93	112
3	WF9 × Hy	131.4	88	109	109
4	Hy × O7	120.1	69	85	100
5	Illinois 972-1	117.5	81	100	97
6	WF9 × 38-11	115.2	88	109	95
7	WF9 × M-14	113.0	92	114	94
8	Illinois 751	112.9	84	104	94
9	5120 × Hy	99.3	74	91	82
	Average	120.7	81	...	...
	Medium productive soil[b] 1949 (rotation: corn, corn, corn, soybeans): Less than 5.8 bushels difference between total yields of any two entries is not significant.				
1	Hy × O7	73.8	90	105	116
2	Hy × L317	73.3	74	86	115
3	Illinois 246	71.4	76	88	112
4	Illinois 972-1	70.3	92	107	110
5	WF9 × M-14	65.9	94	109	103
6	WF9 × Hy	65.6	88	102	103
7	Illinois 751	63.0	88	102	99
8	WF9 × 38-11	51.8	88	102	81
9	5120 × Hy	37.8	80	93	59
	Average	63.7	86	...	...

[a] Highly productive soil: mostly Sidell silt loam, slightly rolling phase; 1946-1949 (Southwest rotation); 1949 (S100, Southwest rotation). [b] Medium productive soil: mostly Sidell silt loam, slightly rolling phase; 1946-1949 (South-Central rotation); 1949 (S700, South-Central rotation).

SUMMARY

In 1949 three hundred and sixteen hybrids were grown on seven fields in Illinois. For the fourth year six single-cross and three double-cross hybrids were grown at Urbana on two fields differing in productivity. Planting dates ranged from May 16 to June 2. Growing conditions were generally good at all locations. Results of the tests were briefly as follows:

1949 yields. The Galesburg field in west north-central Illinois had the highest yield, 88.6 bushels an acre. Average yields per acre on the other test fields were: Sullivan, 85.1 bushels; Mundelein, 85.1 bushels; Sheldon, 82.8 bushels; Dixon Springs bottomland, 67.6 bushels; Dixon Springs upland, 63.5 bushels; Alhambra, 59.8 bushels; and DeKalb, 58.5 bushels.

The average yield of all hybrids tested was 74.8 bushels. The average yield at four locations in central and northern Illinois (DeKalb, Galesburg, Sheldon, and Sullivan) was 19 bushels, or 24 percent less than the average yields at the same locations in 1948.

Three-year summaries, 1947-1949. The highest-yielding hybrids in the three-year summaries are as follows: **Northern Illinois** — Pioneer 349, P.A.G. 299, Keystone 44, Illinois 101, Lowe 52; **West North-Central** — Pioneer 313B, Schwenk S-24, Ainsworth X-21, Pioneer 336, U.S. 13; **East North-Central** — Keystone 38, Producers 940, Illinois 21, P.A.G. 164, U.S. 13; **South Central** — Producers 900, P.A.G. 173, P.A.G. 392, U.S. 13, Ainsworth X-13-3; **Southern** — Whisnand 917(W), Doubet D-41, Whisnand 905(W), Illinois 784, Funk G-80; **Extreme Southern, bottomland** — Illinois 1459 (Station), Whisnand 917(W), P.A.G. 620(W), Doubet D-41, Illinois 2214(W); **Extreme Southern, upland** — Keystone 106(W), Illinois 2216(W), Lowe 855(W).

Certain hybrids which were top performers in the 1947 three-year summaries do not appear in the present summary tables. These hybrids are listed in Bulletin 531 (1948 report) as *Proven Hybrids.*

Lodging. Lodging was extensive in all fields except DeKalb. Wind storms occurring at Sheldon in late summer and at Galesburg just prior to harvest did great damage. Corn borers and stalk rots were the cause of large numbers of broken plants at Mundelein, Galesburg, Sheldon, and Sullivan.

Corn borer damage. The European corn borer was responsible for greater damage in these tests and over the state than at any time since this insect became established in Illinois. Estimated loss due to this insect was 65 million dollars in 1949.

Corn borer damage was of importance on four test fields — Galesburg, Sheldon, DeKalb, and Sullivan. The average percent of plants broken below the ear because of corn borer damage was: Galesburg 28.6; Sheldon 16.3; DeKalb 10.5; and Sullivan 4.6. The estimated percent of ears left in the field after harvest because of borer damage was: Galesburg 9.0; Sheldon 5.0; DeKalb 3.2; and Sullivan 2.3.

Disease damage. Stewart's disease, Helminthosporium blight, and several kinds of stalk rot were unusually prevalent this year. The worst damage occurred in south-central Illinois. The combined damage from these diseases for the state as a whole was estimated at 16.5 percent. Yields, however, were not too bad because, except for corn borers, growing conditions in most parts of the state were excellent.

Protein and oil content. For the second year a sample of each entry from each field was analyzed for protein and oil. On a moisture-free basis, the average protein content for all entries was 9.9 percent, and the average oil content was 4.5.

There was no correlation between total yield and protein content nor between total yield and oil content. The average difference between the average percentages of protein and oil for the entries on each field was 2.4 points in protein and 1.4 points in oil.

Effect of soil-productivity level. For the fourth year six single- and three double-cross hybrids were tested at Urbana on two fields differing in productivity. The yield of the lowest-yielding hybrid in 1949 on the medium-productive soil was 37.8 bushels an acre. The yield of the highest-yielding hybrid on the highly-productive soil was 141.5 bushels an acre, an increase of 103.7 bushels or 274 percent.

The first field, with a long-time rotation of corn, corn, corn, and soybeans, produced an average of 62.4 bushels an acre over the four-year period. On the second field, where a rotation of corn, oats, red clover, and wheat (with a clover catch crop) is used, an average yield of 114.2 bushels an acre was obtained. Both fields have received the same soil treatment. *Thus the more desirable long-time rotation for this soil type increased the yield 51.8 bushels an acre.*

CONTRIBUTORS OF SEED

Ainsworth Hybrids	Ainsworth Seed Co.	Mason City
Appl Hybrids	Appl's Hybrid Seed Co.	St. Joseph
Baird Hybrids	James O. Baird	Williamsfield
Bear Hybrids	Bear Hybrid Corn Co.	Decatur, Box 628
Bo-Jac Hybrids	Bo-Jac Hybrids	Mt. Pulaski
Canterbury Hybrids	C. E. Canterbury Seed Co.	Cantrall
Cargill Hybrids	Cargill, Inc.	St. Peter, Minn.
Carlson Hybrids	Carlson Hybrid Corn Co.	Audubon, Iowa
Castle Ohio Hybrids	Leroy Castle	Bluffs
Corn Belt Hybrids	Corn Belt Hybrid Seed Co., Inc.	Boswell, Ind.
Crow Hybrids	Crow's Hybrid Corn Co.	Milford
DeKalb Hybrids	DeKalb Agricultural Assn.	DeKalb
Doubet Hybrids	E. W. Doubet	Hanna City
Embro Hybrids	Ed. F. Manglesdorf & Bro., Inc.	1020 S. 4th St., St. Louis, Mo.
Farmcraft Hybrids	Farmcraft Seed Co.	Oxford, Ind.
Ferris Hybrids	Ferris Hybrids	Princeton
Frey Hybrids	Frey Hybrid Corn Co.	Gilman
Funk Hybrids	Funk Brothers Seed Co.	Bloomington
Holmes Hybrids	Holmes Hybrids	Edelstein
Huebsch Hybrids	L. A. Huebsch & Son	Mundelein
Huey Hybrids	Huey Seed Co.	Carthage
Hulting Hybrids	G. E. Hulting & Son	Geneseo
Illinois Hybrids	Ill. **21** (Haudrich Hybrid Corn Co., Belleville; Geo. L. Pfeifer & Son, Arcola; Powers Seed House, Brocton; Ill. Agr. Exp. Sta.; P. A. Stone & Son, Pleasant Plains)	
	Ill. **101** (L. A. Huebsch & Son; Ill. Agr. Exp. Sta.)	
	Ill. **200** (Marshall Butzow, St. Joseph; Haudrich Hybrid Corn Co.; Geo. L. Pfeifer & Son; Ill. Agr. Exp. Sta.)	
	Ill. **201** (Ill. Agr. Exp. Sta.; Mountjoy Hybrid Seed Co., Atlanta)	
	Ill. **206** (Geo. L. Pfeifer & Son)	
	Ill. **246** (Ill. Agr. Exp. Sta.)	
	Ill. **269** (L. A. Huebsch & Son)	
	Ill. **273-1** (O. P. Tiemann, Bloomington)	
	Ill. **751** (Ill. Agr. Exp. Sta.)	
	Ill. **784** (Haudrich Hybrid Corn Co.; Ill. Agr. Exp. Sta.)	
	Ill. **972** (Appl's Hybrid Seed Co.)	
	Ill. **972-1** (Ill. Agr. Exp. Sta.; Geo. L. Pfeifer & Son)	
	Ill. **972A-1** (Ill. Agr. Exp. Sta.; P. A. Stone & Son)	
	Ill. **1091** (Montjoy Hybrid Seed Co.)	
	Ill. **1091A** (Ill. Agr. Exp. Sta.)	
	Ill. **1180** (L. A. Huebsch & Son)	
	Ill. **1246** (Geo. Holder, Bloomington, Box 801)	
	Ill. **1248** (Seeber Bros. Seed Co., Champaign)	
	Ill. **1277, 1279** (Ill. Agr. Exp. Sta.)	
	Ill. **1337** (Ill. Agr. Exp. Sta.; Geo. L. Pfeifer & Son; Edward Wilson, Winchester)	
	Ill. **1459, 1508, 1515, 1521B, 1540A, 1540B, 1570, 2214(W), 2216(W)** (Ill. Agr. Exp. Sta.)	
Iowealth Hybrids	The Ioweath Co.	Lexington
Kelly Hybrids	Kelly Seed Co.	San Jose
Keystone Hybrids	Corneli Seed Co.	101 Chauteau Ave., St. Louis, Mo.
Lowe Hybrids	Lowe Seed Co.	Aroma Park
Moews Hybrids	Moews Seed Co.	Granville
Morton Hybrids	Roy A. Morton & Sons	Bowen
Munson Hybrids	Carl Munson	Galesburg
National Hybrids	National Hybrid Corn Co.	Normal
Nichols Hybrids	Nichols Bros.	Hebron

Null Hybrids	Null Seed Farms	Colchester
P. A. G. Hybrids	Pfister Assoc. Growers Inc.	Aurora
Pfeifer Hybrids	Geo. L. Pfeifer & Son	Arcola
Pfister 187 Hybrids	Lester Pfister	El Paso
Pike Hybrids	Pike Hybrid Corn Co.	Pontiac
Pioneer Hybrids	Pioneer Hi-Bred Corn Co. of Ill.	Princeton
Ponder Hybrids	Ponder Seed Co.	Hammond
Pride Hybrids	Pride Hybrid Co. (Keith McGuire)	Forreston
Pringle Hybrids	Pringle Seed Co.	Sparland
Producers Hybrids	Producers' Seed Co.	Piper City
Schwenk Hybrids	W. T. Schwenk & Sons	Edwards
Sibley Hybrids	Sibley Farms Service Corp.	Sibley
Sieben Hybrids	Sieben Hybrids	Geneseo, R. 1
Stewart Hybrids	Frank S. Stewart	Princeville
Stiegelmeier Hybrids	H. L. Stiegelmeier	Normal
Super-Crost Hybrids	E. J. Funk & Sons	Kentland, Ind.
Top Yield Hybrids	Top Yield Cooperative Co.	Galva
United Hybrids	United Hybrid Growers Assn.	Shenandoah, Ia.
U. S. Hybrids	**U. S. 13** (Appl's Hybrid Seed Co.; Haudrich Hybrid Corn Co.; Ill. Agr. Exp. Sta.; Kelly Seed Co.; Dale Lepper, Quincy; Roy A. Morton & Sons; Geo. L. Pfeifer & Son; P. A. Stone & Son; Edward Wilson)	
Whisnand Hybrids	Myron Whisnand	Arcola

INDEX TO ENTRIES

When a hybrid appears in the *summary* portion of a table, the table number in this index is printed in **blacker type.** At Dixon Springs the bottomland field is indicated in this index as 13(B), the upland field as 13(U).

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Ainsworth X-201	5, 6, 11, 12, 14, 15B
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Bear OK-77	14
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DeKalb 800A	6, 12
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Frey 645	3, 6, **12**, 12
Frey 692	3, 6, 12
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Illinois 2216(W) (Station)	7, 13, **15B**, 15B, **15U**, 15U
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P.A.G. 253	4, 10
P.A.G. 270	5, 11
P.A.G. 282	4, 10
P.A.G. 299	4, **10**, 10
P.A.G. 347	5, 11
P.A.G. 392	5, 6, 7, **11**, 11, **12**, 12, **13**, 13
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Pioneer 304	3, 5, 6, 11, 12, 14, **15B**, 15B
Pioneer 313A	7, 13, 14, 15B
Pioneer 313B	3, 5, 6, 7, **11**, 11, 12, 13, **14**, 14, **15B**, 15B
Pioneer 332	3, 6, 7, 12, 13, **14**, 14, **15B**, 15B
Pioneer 336	5, **11**, 11
Pioneer 339	3, 5, 11
Pioneer 340	3, 4, 10
Pioneer 349	4, 9, **10**, 10
Pioneer 352	4, 9, 10
Pioneer 377A	9
Pioneer 505(W)	**14**, 14, **15B**, 15B
Pioneer 4040	4, **10**, 10
Ponder P-180	4, 10
Ponder P-205	4, 10
Ponder P-814	7, 13
Pride D-45A	9
Pride D-56	4, 10
Pride D-66	3, 4, **10**, 10
Pringle P-100	5, 11
Producers E102B	4, 5, 10, 11
Producers E114B	4, 5, 10, 11
Producers 305	4, 9, 10, 10
Producers 311	9
Producers 315	4, 9, **10**, 10
Producers 320	9
Producers E409	14, 15B
Producers E441	14, 15B
Producers E445	14, 15B
Producers 730	3, 6, 7, 12, 13
Producers 900	5, 6, 7, 11, 12, **13**, 13
Producers 940	3, 5, 6, 7, **11**, 11, **12**, 12, 13
Producers 1050	7, 13, 14, 15B

S

Schwenk S-24	5, 11
Schwenk S-34	5, 6, 11, 12
Sibley 777	6, 12
Sieben S-340	3, 4, 5, **10**, 10, 11
Sieben S-440	5, 6, 11, 11, 12
Sieben S-440E	4, 5, 6, 10, 11, 12
Sieben S-450	3, 4, 10
Stewart S-11	5, 11
Stiegelmeier S-13	14, 15B
Stiegelmeier S-340	5, 6, 11, 12
Stiegelmeier S-360	4, 10
Stiegelmeier S-370	5, 6, 7, 11, 12, 13
Super-Crost FD-3A	4, 10
Super-Crost FD-6	6, 12
Super-Crost FD-7	5, 11
Super-Crost FD-8	15B
Super-Crost F-138	3, 4, 9, **10**, 10
Super-Crost F-169	5, **11**, 11
Super-Crost S-12	6, 12
Super-Crost 85A	9
Super-Crost 213	4, 9, 10
Super-Crost 707(W)-1	15U
Super-Crost 708(W)	7, 13, 14, **15B**, 15B
Super-Crost 746	6, 12
Super-Crost 840	14, **14**
Super-Crost 1005B	14, 15B
Super-Crost 1010S	14, 15B

T

Top Yield M-105	4, 10
Top Yield M-546	3, 5, 11

U

United U-41	4, 10
United U-47	5, 11
U. S. 13 (Appl)	14
U. S. 13 (Haudrich)	14
U. S. 13 (Kelly)	14
U. S. 13 (Lepper)	5, 11, 14
U. S. 13 (Morton)	14
U. S. 13 (Pfeifer)	7, 13
U. S. 13 (Station)	3, 5, 6, 7, 11, 12, 13, 15B
U. S. 13 (Stone)	7, 13
U. S. 13 (Wilson)	7, 13

W

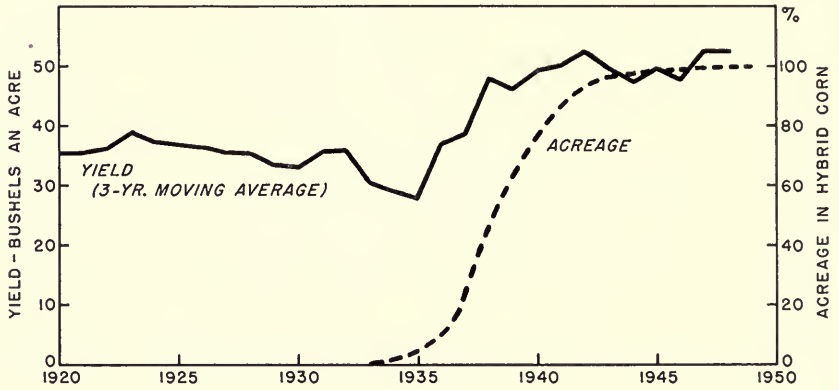
Whisnand 804	7, **13**, 13
Whisnand 804D	7, 13, 14
Whisnand 834D	14, 15B
Whisnand 905(W)	**14**, 14, 15B, **15U**, 15U
Whisnand 917(W)	**14**, 14, 15B

Single Crosses

Hy x L317	16
Hy x O7	16
WF9 x Hy	16
WF9 x M-14	16
WF9 x 38-11	16
5120 x Hy	16

INCREASE IN CORN YIELDS 1920-1949

YIELDS OF CORN in recent years have increased directly with the percent of acreage planted with hybrid seed. Open-pollinated corn grown in Illinois during the 16 years 1920-1935 failed to produce a state average-yield of 40 bushels for any three-year period. For the entire period it was only 34.5 bushels an acre. Since 1939, when the acreage seeded to hybrids surpassed that seeded to open-pollinated varieties, the state average-yield for any three-year period has never been below 46 bushels and for the entire period it has been 50.7 bushels. This is an increase of 16.2 bushels, or 47 percent, over the average for 1920-1935.



A number of factors may have contributed to the increase in yields during this period. Among them were: generally favorable growing seasons, mechanization of cultural practices, greater use of fertilizer, and the use of chemicals in combating disease, insects, and weeds. There remains little doubt, however, that hybrids have taken far more advantage of the newer, faster present-day farming methods and techniques than open-pollinated varieties could have.

If the state average yield is to continue to climb, better cultural and fertility practices must be followed, and plant breeders must develop hybrids that are more tolerant or more resistant to the hazards of corn production. Two such hazards of prime importance in 1949 were corn borers and stalk rots.

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